# THE DAWNING

## A NEW DAY FOR THE SOUTHWEST



## A HISTORY OF THE U.S. ARMY CORPS OF ENGINEERS

## TULSA DISTRICT

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# THE DAWNING
## A NEW DAY FOR THE SOUTHWEST

**A History**
**of the Tulsa District**
**Corps of Engineers**
**1939-1971**

**By**

**William A. Settle, Jr.**

**US Army Corps of Engineers**
**Tulsa District**
**Tulsa, Oklahoma**

**1975**

*Dedicated*

*to*

*The men and women, past and present,*
*of the Tulsa District*

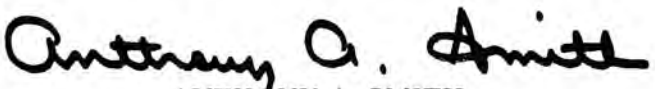
# FOREWORD

This is a history of the Tulsa District United States Army Corps of Engineers. It is a story, first of all, of incredible engineering accomplishments within the District's 164 thousand square-mile portion of the Arkansas and Red River Basins over a time frame which spans roughly the three and one-half decades between the Dust Bowl-drouth years of the 30's and the beginning of the last quarter of the 20th century.

In a larger sense, this is also the story of the persons living in the two basins, their dreams and aspirations and their determination to achieve a better life, for, as the author quickly perceived in his research, the achievements of any Corps of Engineers District are as much a product of the efforts of private citizens as of Corps personnel. For this reason, the history of the Tulsa District is a happy-ever-after story, in that many of these people lived to see their semiarid homeland become a land of sparkling lakes, with water, electric power, navigation, recreation, and flood control; a land where, as one prominent local newspaper put it, "prosperity is finally replacing the old *Grapes of Wrath* image."

Something of the flavor of the military and civilian Corpsmen, with their heritage of two centuries of engineering expertise, and of the farmers, businessmen and professional people, the statesmen and politicians—of all who had a part in the development of the region's water resources—is here. And if certain political maneuverings—shenanigans in local straight talk—were deemed necessary at times to bring about certain results, that is here, too. It is the historical sense that creates a difference between mere politics and constructive statesmanship, it has been written.

The Tulsa District is only one of the 36 Corps of Engineers Districts which work today to develop the water resources of the nation. Few other Districts, however, can lay such claims as to the significance of their impact on a region. This is so in part because interested citizens and able political leaders were successful over the years in obtaining a proportionately large share of the Corps civil works effort for this region. This is so also because the water resource needs of the region—for flood control and navigation, for power, water supply, and recreation—were so great. In the final analysis, it has been the happy marriage of these great needs with equally great achievements which has been the story of the Tulsa District, and which constitutes the legacy of which every Tulsa District employee is so conscious and so proud.



ANTHONY A. SMITH
Colonel, CE
District Engineer

# PREFACE

The US Army, Corps of Engineers considers 16 June 1775 the date of its founding; on that day, the eve of the Battle of Bunker Hill, the Second Continental Congress authorized GEN George Washington to employ an engineer for his staff. The Corps of Engineers will celebrate its 200th anniversary on 16 June 1975, a year in advance of the Nation's bicentennial. Looking toward this significant date, the Corps has commissioned the writing of district histories, several of which have been published. In early 1972, the Tulsa District arranged with the University of Tulsa for me to do the research for and write a history of the Tulsa District to the end of 1971. Basically that is what this volume purports to be, but it has been neither possible nor desirable to break off every topic under consideration as of that date.

I assumed from the beginning that my task was to determine, present, and interpret the facts as an independent historian. This history then is not the Tulsa District speaking about itself. The form the presentation takes is influenced by my belief that most events are deeply rooted in what has gone before, and that knowledge of the relation between present and past is essential to understanding. The frequently-stated claims of the Corps of Engineers about the importance of local interests and the part they and Congress play in everything the Corps does came to my attention early in my research. I was soon convinced that one cannot understand how the Corps functions without studying the interaction of the local interests, Congress, and the Corps. There was significant input from leaders in this area that influenced the work of the Tulsa District long before it was established. To those who may think I have overemphasized the historical backdrop and the work of interest groups and politicians in this history, I can only say that the more I learn about the Tulsa District the more firmly I hold to my judgment. The significant achievements of the Tulsa District can be attributed to its friends and supporters almost as much as to the Corps itself.

The availability of source materials and the amount of time one has to use them and think about them determine almost as much as one's philosophy of history the pattern of the final product. Ideally, I would like to know that I have found and examined every significant bit of extant evidence and have interviewed all the people whose knowledge would contribute to my understanding. To even approach that ideal has not been possible within my time limits although the contracting officers in the Corps have been generous in extending time limits I myself proposed. Recognizing that I had to make choices, I chose not to construct an encyclopedic compilation of events and names although it would have reference value. I have written this history, knowing that further extensive research is both possible and desirable, as the best I can do with the sources I have found in the time I have had. This statement is not a complaint. I have enjoyed immensely this experience even if I have learned, surprisingly, that subsidized research with guaranteed publication is not as much fun as staying with a project until one feels it is finished.

Extensive footnotes inform the reader of the sources of information. Many persons are recognized in the notes for their assistance to me, but there are countless others to whom I am also grateful who made helpful contributions to my knowledge which I did not use in such a way that I could cite them.

I used the Elmer Thomas, George B. Schwabe, and Robert S. Kerr papers which have been deposited at the University of Oklahoma Library in the Western History Collection. The assistant curator, Mr. Jack Haley, and his staff gave me assistance far beyond anything I had the right to expect and made the time I spent there an experience which will long be remembered with pleasure. Mr. George Younkin, Archivist at the Federal Records Center at Ft. Worth, and two members of the staff, Mr. Larry Weise and Mr. Forrest Brown, assisted me in locating everything in that depository pertaining to the Tulsa District. The things I found there had real value in guiding me to information elsewhere. My trip to the Federal Records Center at Suitland, Maryland, was quite fruitful as the footnotes attest, but retrieval of information there is difficult. Without the able assistance of Dr. James Miller and Mr. Francis Knapper, I would have found very little. It would take much more time than I have had to find and work all the things at Suitland that pertain to the Tulsa District. Other Federal records centers also contain Tulsa District records. Dr. Jesse Remington, Chief, Historical Division, OCE, made available to me the personal papers of LTG Samuel R. Surgis who willed his papers to the Historical Division whose office

and library are in Baltimore, Maryland. Dr. Remington's guidance and counsel have been invaluable.

A most important source of information was the files of the Arkansas Basin Development Association (ABDA). COL Vernon W. Pinkey, Executive Vice President, made the financial records, correspondence, minutes of membership meetings, minutes of meetings of the Board of Directors, minutes of meetings of the Executive Committee of the Board of Directors, publications of ABDA, and miscellaneous materials available to me without restriction. Interestingly, I found helpful correspondence from District Engineers and other Corps personnel in the ABDA, Kerr, Thomas, and Schwabe files that had not been retained in the Tulsa District records.

Like the ABDA files, the Tulsa District Records Holding Area yielded much information, but many things I wanted to see had not been retained. All records of military construction were shipped away when that function was transferred from the Tulsa District to other districts. Holdings of the Tulsa District Library, discussed in the Epilogue, were indispensable.

The minutes of the Board of Directors of the Tulsa Chamber of Commerce and its predecessor, the Tulsa Commercial Club, and the files of various weekly and monthly publications of the Chamber were important sources of information. These were made available by the Chamber staff and were used in a comfortable and hospitable environment. The clipping collections of the Newspaper Printing Corporation Library, Tulsa City-County Library, and the University of Tulsa Library guided me to many important bits of information as did the one in the History File of the Tulsa District.

An ad hoc History Review Committee composed of Kenneth W. Fielder, Alan W. Geismar, Donald R. Henderson, Robert M. Sutter, and Ruth F. Walton read and criticized the manuscript as did several other present Corps employees. Other readers who also made helpful suggestions were Professors Michael W. Whalon and Thomas H. Buckley of the University of Tulsa, Mrs. Anne Morgan of Norman, Oklahoma, COL Vernon W. Pinkey, COL Francis J. Wilson, and Myron W. DeGeer.

University of Tulsa graduate students Veta Jo DuPuy, Rhenda J. White, Evelyn Harshman, Robert Wilkerson, and Steve Barrett all worked short periods as my assistants; undergraduate students Victoria Morse and Denise Wright typed for me; and History Department secretaries Mary Lou Baker and Mary Schenck had major responsibilities in the preparation of the manuscript.

My greatest debt is to the innumerable past and present members of the Tulsa District who have in some way assisted in this project, and hence the dedication of this history to the men and women of the Tulsa District is a sincere attempt to express my appreciation. To them, to all the persons named above, to staff members of the libraries mentioned, to all those persons cited as sources of information in the footnotes, to the persons mentioned in the Epilogue, to the countless others who assisted, and to my wife, Marjorie, who had the patience this project required of her, I gratefully acknowledge my indebtedness. For errors of fact and judgment in the history, I alone am responsible.

18 November 1974 Wm. A. Settle, Jr.

## CONTENTS

## CHAPTER I

*Conceived in Dust*
*Cradled in Flood*
*Created by Men* [1]

On 5 June 1971, 30,000 people assembled at the Port of Catoosa, head of navigation on the Verdigris River, for the dedication of the McClellan-Kerr Waterway. Thousands of others watched on live television and saw portions of the program on later network and local news coverage. The events of this day symbolized the fulfillment of dreams nearly three quarters of a century old and of at least a half century of persistent effort to connect the Arkansas Basin near Tulsa, Oklahoma, by navigable channel, with the Mississippi River and thus with the Gulf of Mexico.

Great occasions promote both retrospection and speculation. This one was no exception. The 27 May 1971 issue of *Tulsa,* official publication of the Metropolitan Tulsa Chamber of Commerce, was a special edition called *The Great Waterway.* On 4 June 1971 the *Tulsa World* and the *Tulsa Tribune* issued special waterway editions. These three unusually fine examples of commemorative journalism were filled with historic information about the region, the river, floods, navigation, economic development, engineering achievement, political maneuvering, and the many leaders who had persevered against all obstacles.

The determination of a group of vigorous leaders to make the Arkansas River and its tributary Verdigris navigable to Catoosa had not always been taken seriously; but by the mid-1940s it was, and in the decade before this dedication, an ever-increasing amount of publicity had been given to it in national publications. The events of 5 June 1971 were the climax.

The evening before, more than 900 persons attended a $50-a-plate dinner in Tulsa's Assembly Center which was transformed into a modern Hanging Gardens of Babylon. They danced to the music of Ray McKinley and his band after listening during the dinner to the Tulsa Philharmonic Pops Orchestra. Appropriately, Anita Bryant, who graduated from Tulsa's Will Rogers High School and who took her first giant step toward stardom as Miss Oklahoma, sang, and Al Hirt, from the other end of the navigation system at New Orleans, played his trumpet. Governors Dale Bumpers of Arkansas and David Hall of Oklahoma, Senator John McClellan, many high ranking military officers, and other VIPs were recognized at the dinner.[2]

Over 500 citizens of Oklahoma were honored by membership on the Admiral's Committee for the dedication, but a smaller executive committee made and executed the plans. It had been determined earlier that the dedication was important enough that only the President of the United States should give the dedicatory address. Richard M. Nixon had promised during a campaign visit to Oklahoma in 1968 that he would return for the ceremony, and his schedule set the date of the celebration.

A program of entertainment, provided by the University of Tulsa Modern Choir, Creek Nation Pipes and Drums, the Young Tulsans, the Air Command Band from Offut Air Force Base, and an all-star high school band, relieved the anxiety of the crowd that had gathered by the river to await the arrival of the presidential helicopter from Tulsa International Airport where Air Force I would land with the President's party.

The helicopter set down on schedule, and after the throng's very friendly welcome to the President, the platform party took its place. It included three members of the President's Cabinet; United States Senators John McClellan, Fred Harris, and Henry Bellmon; Governors Hall and Bumpers; several members of the Arkansas and Oklahoma delegations in the House of Representatives, including Page Belcher and Speaker Carl Albert; civic leaders; members of the clergy; and Robert S. Kerr, Jr., who would join Senator McClellan in unveiling a plaque commemorating the waterway. LTG Frederick J. Clarke, Chief of Engineers, sat quietly at the rear of the platform.

[1] Inscription on dedicatory plaque, McClellan-Kerr Arkansas River Navigation System. Wording by COL Vernon W. Pinkey.

[2] *Tulsa Tribune,* 4, 5 Jun 71; *Tulsa World,* 3, 4, 5 Jun 71; *Tulsa* 48 (27 May 71).

**Senator McClellan**

**Senator Kerr**

In 45 minutes, with Tulsa banker F. G. McClintock serving as Master of Ceremonies, the presentation of colors, Anita Bryant's singing of the National Anthem, prayers, introductions, brief remarks, welcome by Governor Hall, presentation of commemorative coins, unveiling of the plaque, and the President's address all occurred. President Nixon's remarks were light but appropriate. Taking time for pleasantries, he showed that he enjoyed this trip to mid-America. He recalled that 25 years before, in 1946, the year that he and Speaker Carl Albert, who had introduced him, were first elected to Congress, the navigation project was authorized. It was, he said, "a bold dream when we came to the Congress, but is now a grand reality, and for generations to come will be a living monument to what man and nature together can accomplish." While many had considered it a "foolish dream," others like Senators Kerr and McClellan saw it as a "bold and achievable vision," and the completed project proved they were right. He talked of the economic development and population growth that lay ahead for this "heartland region." But this "virtually unlimited promise in the future of the Arkansas Basin" could be fulfilled only if "we take charge of the development process and guide it wisely." Some of those who heard this challenge knew that its realization could be more difficult than the building of the waterway.[3]

The McClellan-Kerr Arkansas River Navigation System which had cost an estimated $1.2 billion to the time of dedication was the largest civil works project, in terms of cost, ever built by the US Army Corps of Engineers. Its construction was shared by the Little Rock and Tulsa Districts, the latter having been created out of the Little Rock District in 1939. Both districts are part of the Southwestern Division of the Corps which has offices in Dallas, Texas.

The total length of the 9-foot navigation system is 448 miles from the Mississippi River at the mouth of the White River to the head of navigation near Catoosa, Oklahoma. During the early planning

[3]"After Action Report: Dedication of McClellan-Kerr Arkansas River Navigation System by Richard M. Nixon, President of the United States, 5 June 1971," US Army Engineer District, Tulsa, Corps of Engineers, Tulsa, Oklahoma; "President Nixon's Speech, Dedication of the Arkansas River Navigation System Tulsa, Port of Catoosa, 5 June 1971," in *The Model Arkansas River Basin: A Plan for Action* ([Tulsa]: Midcontinent Environmental Center Association, January 1973), pp. 1-7.

stages, comparative studies of two potential sites for the location of the head of navigation were made, one at Tulsa on the Arkansas River and the other on the Verdigris River near Catoosa. Primarily because the Tulsa location would have required locks to provide about 105 feet of additional lift, the decision was made to use the Verdigris River above Muskogee, Oklahoma.

Similar studies of the best route from the Mississippi River to the vicinity of Arkansas Post resulted in a route which leaves the Mississippi River at the mouth of the White River (Mississippi River mile 599), follows the White River to mile 9.2, where it enters the manmade Arkansas Post Canal and follows it to the Arkansas River at navigation mile 19. From that point the course of the channel is the Arkansas River to the mouth of the Verdigris at Muskogee, Oklahoma, thence up the Verdigris for about 50 miles to the head of navigation and turning basin, about 15 miles from downtown Tulsa.

Seventeen locks and dams with a total lift of 420 feet maintain the required water level for operation. The locks have single lifts with heights ranging from 14 feet at Lock and Dam 4 to 54 feet at Dardanelle. All lock chambers are the same size, 110 by 600 feet. Chouteau Lock and Dam and Newt Graham Lock and Dam are on the Verdigris between its confluence with the Arkansas and the turning basin at Catoosa. Three other structures—Webbers Falls, Robert S. Kerr, and W. D. Mayo—are on the Arkansas and within Oklahoma. The remaining 12 locks and dams are in Arkansas and the Little Rock District.

Main stem lakes are formed by four of the locks and dams, and at these, hydroelectric power generation plants were constructed: Dardanelle and Ozark in Arkansas and Robert S. Kerr and Webbers Falls in Oklahoma. Dardanelle has four Kaplan-type turbines each rated at 31 megawatts or a total of 124 megawatts, and Ozark has five inclined axis turbines each capable of producing 20 megawatts. Robert S. Kerr has four Kaplan-type turbines each producing 27.5 megawatts, while Webbers Falls has three inclined axis turbines each with a rated capacity of 20 megawatts. Thus the total rated generation capacity developed on this river system is 394 megawatts. The inclined axis turbines at Ozark and Webbers Falls are the first of this type to be installed in the United States.

A minimum width of 250 feet is maintained throughout the entire Arkansas River portion of the channel, 300 feet in the White River and the Arkansas Post Canal, and 150 feet in the Verdigris River channel. The latter is designed so that it may be increased to 300 feet at some future time.

In its natural state the Arkansas River is one of the most unstable of streams. In dry seasons it is reduced to a mere trace of water, but with heavy rains it becomes a rushing torrent, often changing course, washing out the banks, and destroying improvements. To stabilize its banks with dikes, revetments, and channel cutoffs was a major challenge that required expenditures approximating 10 percent of the cost of the waterway. With the river's wild waters, there moved a tremendous sediment load—an average of 105 million tons annually passed Little Rock. This load has been reduced to 25 million tons.

At a given time the operation of any dam on the Arkansas River or one of its tributaries may be related to the functioning of the navigation system, but seven lakes in eastern Oklahoma have a major role. Three of these—Keystone on the Arkansas, Eufaula on the Canadian, and Oologah on the Verdigris—are vitally related to regularizing the waterflow and/or control of sediment. Four other lakes—Tenkiller Ferry on the Illinois and Pensacola, Markham Ferry, and Fort Gibson on the Grand—have more than incidental functions in the system.[4]

Through the years the champions of Arkansas River navigation believed that it was the key to the future economic and social development of the Arkansas River Basin and that the savings in transportation cost would attract capital investment for the development of the natural and human resources of this great region. In a sense it is now necessary to await the future to determine if this optimism is well placed. Impressive as this great engineering achievement is, it would be an error to judge, by the building of the waterway alone, the significance of the contribution of the Corps of

[4] Department of the Army—Corps of Engineers, *Annual Report of The Chief of Engineers on Civil Works Activities, Fiscal Year 1971*, 2:18-22, (hereafter cited as *Annual Report of Chief*, with year); "Facts about our Waterway," *Tulsa* 48 (27 May 71): 6; "McClellan-Kerr Arkansas River Navigation System," a brochure issued by Little Rock and Tulsa Districts, Corps of Engineers, revised 1972; two memorandums prepared by Myron DeGeer for writer, February 1973.

Engineers to the parts of seven states that are in the Tulsa District. Instead, the role the Corps has had in changing the image of this area of over 166,000 square miles and improving the quality of life therein through control, development, and utilization of its water resources is more significant.

The area comprising the Tulsa District is essentially the drainage basin of the Arkansas River from Great Bend, Kansas, to Fort Smith, Arkansas, and the drainage basin of the Red River from its source to Fulton, Arkansas. It includes the southern part of Kansas; southeastern corner of Colorado; an area in eastern New Mexico; most of the Texas Panhandle and the portion of northern Texas drained by tributaries of the Red River; an area in southwest Arkansas extending from Fort Smith to the Red River and the northwest corner of Arkansas; the southwest corner of Missouri; and all of Oklahoma except a small area along the Arkansas border north of Fort Smith.

At one time or another the people in every part of this area suffered extremely during the hot, dry summers of the middle 1930s, but a generalization intended to be equally applicable throughout the District area would be erroneous and misleading due to the great variety of climatic conditions and land forms found there. However, many associate the area with the Dust Bowl, a phenomenon of the southern Great Plains. An Associated Press staff writer, Robert Geiger, is credited with first applying the term to "the western third of Kansas, southeastern Colorado, the Oklahoma Panhandle, the northern two-thirds of the Texas Panhandle, and northeastern New Mexico." Geiger was on assignment at Guymon on 14 April 1935 when the worst of the "black blizzards" hit that town in the Oklahoma Panhandle. It moved south from Dodge City, Kansas, after reducing that city to total darkness for 40 minutes and "leaving in its path the greatest destruction, damage, and injury ever inflicted by a dust storm," bringing topsoil from the Dakotas, western Nebraska, and central and western Kansas.

The whole Nation had become aware of duststorms of the southern Great Plains in May of 1934 "when a 'duster' moved approximately 300,000,000 tons of soil from the drought-stricken area, and the air carried the soil into New York and Washington, D.C., and out over the Atlantic Ocean some 500 miles." The duststorms occurred intermittently over a period of 8 years, 1939 being the first year in which there was sufficient rainfall to prevent them. Actually only the Panhandle and possibly an area along the State's western border were in the Dust Bowl, but an image of Oklahoma as the Dust Bowl state was fixed upon it.

Among the factors that attached the Dust Bowl image to Oklahoma were the duststorm pictures made in the Oklahoma Panhandle, the Woody Guthrie Dust Bowl ballads, and perhaps most of all John Steinbeck's great social novel, *The Grapes of Wrath,* dealing with California migrant workers of whom the fictional Joad family from near Sallisaw, Oklahoma, were principals. It is true that Oklahoma supplied approximately 100,000—nearly one-tenth—of the more than 1,000,000 migrants to California between 1930 and 1940 and the name *Okie* became an opprobrious term which Californians applied to migrants from Arkansas, Missouri, Texas, and Oklahoma. *Arkie* was also used. It was not the Dust Bowl, though, that drove these migrants from Oklahoma, although drought conditions were factors. Most of them were tenant farmers whom New Deal farm policies before 1937 really hurt instead of helped. They had been engaged mainly in growing cotton, long Oklahoma's biggest cash crop, and severely depressed cotton prices, resulting from competition on the world market with longer stapled varieties were major causes of their misery.[5]

Beginning with 1930 there were 9 years when the annual precipitation in Oklahoma was below normal, the worst year being 1936 when precipitation measured less than 23 inches. People and livestock suffered from inadequate water supply. There was hardly a lake in the State, except small ones that had been constructed for municipal water supplies. That situation is very much in contrast to the one prevailing in 1971, when there were so many lakes in eastern Oklahoma that *Time* had a year before referred to it as "an aquatic paradise."[6]

The floods of the 1920s, 1930s, and 1940s in the

[5]Guy Logsdon, "The Dust Bowl and the Migrant," ed. Savoie Lottenville [*sic*], *The American Scene* 12 (1971), [not paged]; Walter J. Stein, *California and the Dust Bowl Migration* (Westport, Connecticut and London, England: Greenwood Press, Inc., 1973), pp. 3-70; numerous conversations with Guy Logsdon in 1972 and 1973. All quotations in discussion of the Dust Bowl are from Logsdon, "The Dust Bowl and the Migrant."

[6]"Oklahoma 1970; The Dust Bowl of the -30s Revisited," *Time,* 26 Jan 70, pp. 16-17.


WELCOME PRESIDENT NIXON
McCLELLAN-KERR
ARKANSAS RIVER
NAVIGATION SYSTEM
CONCEIVED IN DUST
CRADLED IN FLOOD
CREATED BY MEN
THIS GREAT WATERWAY IS DEDICATED
TO THE YOUTH OF AMERICA
BY RICHARD M. NIXON
PRESIDENT OF THE UNITED STATES
5 JUNE 1971


COAST GUARD
ARKOMA

Arkansas and Red River Basins; the hot, dry years of the 1930s; the economic plight of farmers in the depression years; and realization of the inadequacy of the industrial development combined to unite many forces in ventures that have resulted in little less than an economic and environmental revolution in the region. Through the leadership of agricultural colleges, US Department of Agriculture, and leading farmers, agriculture has been adapted scientifically to the soils and climate. Nothing has been more important in the achievements than the progress that has been made in the control and utilization of the area's water resources. Countless individuals, institutions, foundations, state and local governmental agencies, the Soil Conservation Service, and the Bureau of Reclamation have had a part, but none has done so much as the Corps of Engineers. The Corps is the Federal water agency with the largest budget and broadest mission, and that is reflected in its achievements in these basins.

By the end of 1971 the Corps of Engineers had constructed 22 dams with permanent lakes and 15 local protection projects in the Tulsa District. In addition the Corps coordinates flood control features of the Grand River Dam Authority's (GRDA) Pensacola and Markham Ferry Dams. Six of the completed Corps dams are in Kansas, one in Arkansas, one in Texas, 13 in Oklahoma, and one—Lake Texoma—is on the Red River between Texas and Oklahoma. From 1939 through fiscal year (FY) 1972, these projects in the Tulsa District prevented an estimated $231 million in flood damages.[7] More difficult to measure is the total economic impact of the construction of these projects upon the region. It undoubtedly was a tremendous boon to the economy, and this potential was not overlooked by the promoters of the projects.

Power production facilities installed at a total of eight dams operated by the Corps had a total rated capacity of 579,000 kilowatts at the end of 1973. All the power produced by the Corps in the District is marketed by the Southwestern Power Administration to customers favored by law. The amount produced was sufficient to have a significant impact in promotion of industry and the improvement of life on farms and in rural communities.

The point at which the Corps of Engineers touches people on a daily basis is in the recreational areas at its projects. In the early years of the Tulsa District the recreational program of the Corps was at best an incidental amenity, but since 1945 the recreation program at Corps-built lakes and waterways has grown into a major feature. Today recreation is a factor that enters into the calculation of costs and benefits. The management of the recreation features in the Tulsa District is one of the main tasks of Corps personnel.

By a sophisticated method of counting, the Corps found that in 1971 its projects over the United States enjoyed a total attendance (recreation days) of 310 million. More than 10 percent, 36,937,000 recreation days (also referred to as visitor days), were in the Tulsa District, which ranks first in attendance among all the districts of the Corps. Lake Texoma, with 10,300,000 recreation days, was second only to Lake Sidney Lanier in the Mobile District. The Corps itself managed 219 recreational areas out of a total of 298 in the District. The states, including their fish and wildlife agencies, and local public agencies operated the remainder.[8]

Counts may be made and a monetary value assigned to a recreation day arbitrarily, but there is really no way to determine the worth of something with the intangible rewards of a day at a lake. With ever-increasing leisure time, the Corps of Engineers' water resource projects in the Tulsa District have come to be one of the most valuable assets possessed and enjoyed by the citizens of the area—a real improvement of the quality of life.

Besides the local residents who fish, swim, boat, picnic, camp, and in many other ways enjoy the recreational areas, millions of visitors come to them from other states. The money that is spent on recreation is important in priming the economy. Two bits of evidence of this may be noted: First, retail sales in Oklahoma were 331 percent greater in Oklahoma's FY 57-58 than in FY 40-41, but in five selected water-rich counties of eastern Oklahoma—Cherokee, Delaware, Mayes, Sequoyah, and Wagoner—the increase ranged from 355 percent in

[7] *Annual Report of Chief, 1972*, 1:37.

[8] Interv, Alvin W. Latimer, 14 Feb 74 (all interviews cited herein, unless otherwise noted, are between the writer and the person named); Department of the Army Corps of Engineers Civil Works Directorate, *Recreation Statistics* (Washington, DC: US Government Printing Office, [1973]), pp. 4-9, 23.

Sequoyah to 605 percent in Mayes and averaged 503 percent.[9] Second, the Lake Texoma Association, after research and study, said that by a "very conservative estimate" the more than 10,000,000 visitors in 1971 pumped over $58,000,000 into Texomaland's economy.[10]

As long as man has lived in the Arkansas and Red River Basins, the streams there have had a dual personality. On the one hand, he used them to his advantage; and on the other, when long rainy seasons or sudden deluges came, they were uncontrollable menaces. Now they are less a peril and more the servant of man, but to make it so has been a long process—one that will never be completely finished because of the vagaries of *Mother Nature*.

[9] "Money on the Bank," *Greater Tulsa* 33 (4 Jun 59): 11.

[10] *Denison* (Texas) *Herald*, 23 Feb 72.

## CHAPTER II

*The life of the busy little river steamers was a precarious one; . . . few were permitted to wear out in the service.* [1]

The Tulsa District when created in 1939 consisted of the watershed of the Arkansas River and its tributaries between Fort Smith, Arkansas, and Great Bend, Kansas. To that was added the basin of the Red River and its tributaries above Fulton, Arkansas, when the Denison District was merged with the Tulsa District on 1 April 1945. (See illustration I)

Fulton, Arkansas, is over 800 river miles from the source of the Red River on the Staked Plains in eastern New Mexico. The river flows eastward across the Texas Panhandle to the 100th meridian, and from there it forms the Texas, Oklahoma-Arkansas boundary to a point 27 miles west of Fulton where it enters Arkansas. The main stem and its tributaries drain an area of over 91,000 square miles of which nearly 51,000 are in the Tulsa District. The major tributary streams above Fulton are the Pease, Wichita, and Little Wichita Rivers and Sanders and Big Pine Creeks in Texas; the North Fork, Washita, Blue, Boggy, and Kiamichi Rivers in Oklahoma; and the Little River of Oklahoma and Arkansas.[2]

The 1,450-mile-long Arkansas River originates as a brook of clear glacial water in the Mosquito Range of the Rocky Mountains near Leadville, Colorado, and after becoming a typical mountain torrent, it flows through the Royal Gorge which its waters are credited with forming. In the 128 miles from its source to Canon City, Colorado, the Arkansas descends from an elevation of 11,500 feet to 5,300 feet. Between Canon City and Pueblo, Colorado, its valley is narrow and flanked by foothills, but after passing Pueblo the valley widens out on the Great Plains. There are few tributaries in eastern Colorado and western Kansas, and the water from rainfall above Great Bend has little significance below that point.

Approximately 500 miles of the Arkansas River are between Great Bend and Fort Smith, and it is these miles and the tributaries which enter within that distance that concern the Tulsa District. On the right bankside the principal ones are Rattlesnake Creek; Ninnescah River; Salt Fork of the Arkansas into which the Chikaskia flows in its lower reaches; Cimarron River which is formed by streams flowing out of New Mexico and Colorado; Polecat Creek; Canadian River which originates in eastern New Mexico and whose two main tributaries, the North Canadian (known as Beaver River in Oklahoma's Panhandle) which begins in northeastern New Mexico and the Deep Fork whose origin is in central Oklahoma, are significant in themselves; Sans Bois Creek; and finally the Poteau River which flows westward out of Arkansas and turns northward to join the Arkansas at Fort Smith. On the left bankside the main tributaries are Cow Creek which enters the Arkansas at Hutchinson; Little Arkansas River whose confluence with the Arkansas is at Wichita; Walnut River; Salt Creek; Verdigris River whose tributaries include the Caney and Little Caney Rivers and Bird Creek; Grand River which is known also as the Neosho especially in Kansas where its tributaries include the Cottonwood River, and which has in Oklahoma as tributaries those beautiful Ozark streams, Spring River, Elk River, and Spavinaw Creek; and finally the Illinois River whose tributary creeks also flow clear Ozark spring water.[3]

The Arkansas and Red River systems have been entwined in the story of man in the region for as long as that story is known, and the genesis of the McClellan-Kerr Waterway is in the historic use made of the river. In the international rivalries for the ownership of North America, Spain and France both claimed the western portion of the lower Mississippi River Valley. The expeditions of Coronado

[1] Grant Foreman, "Steamboats Traveled Up and Down the Arkansas River Over 100 Years Ago," *Muskogee* (Oklahoma) *Daily Phoenix,* 11 May 38.

[2] "Red River Basin above Fulton, Arkansas," US Engineer Office, Denison District, Denison, Texas, June 1941, pp. 1-3.

[3] US Congress, House, *Arkansas River and Tributaries.* H. Doc. 308, 74th Cong., 1st sess., 1935. I:30-36.

and DeSoto in the 1540s gave Spain a priority that was not challenged until LaSalle asserted title to the whole Mississippi River Valley for France in 1682. In the meantime the Spanish were well established in the Santa Fe, New Mexico, region.

LaSalle's attempt at colonization near Matagorda Bay in present Texas resulted in failure and his death, but in 1686 his friend, Henri de Tonti, built a house and fort known as Arkansas Post on the Arkansas River about 60 miles above its confluence with the Mississippi. Between 1699 when the French came to Biloxi Bay and 1718 when New Orleans was founded, the French established a firm foothold on the lower Mississippi Valley. From their earliest entrance into the continent the French preferred to use the waterways as highways instead of making trails for commerce through the forests. In 1719 Jean-Baptiste B'enard, Sieur de la Harpe (Bernard de la Harpe) entered present Oklahoma by way of the Red River from a French trading post near today's Natchitoches, Louisiana, and, leaving the Red River about 25 river miles above the Little River, he traveled from the Red River across the Gulf Central Plains in southwest Arkansas and southeast Oklahoma before crossing the rugged terrain of the Ouachita Mountains to the Arkansas at a point between present Tulsa and Muskogee. During a rendezvous with 7,000 Indians of the Wichita Confederacy on the Arkansas, he was told that the Acansa (Arkansas) was their river. In 1721 he ascended the Arkansas beyond Little Rock. Other French explorers and *coureurs de bois* came upstream into Oklahoma to trade for peltry with the Indians throughout the 18th century. Their bases of operation were Louisiana, Arkansas Post, and the Illinois country. The Wichitas, or Taovaya, were Oklahoma's most active natives in the 18th century. Ferdinandina on the Arkansas near present Newkirk, Oklahoma, and the "Twin Villages" of San Bernardo in present Jefferson County, Oklahoma, and San Teodoro across the Red River in present Montague County, Texas, were Wichita trading villages engaged in trade with the French. Pirogues, made from cottonwood trees, and occasionally some type of keelboat, were the river vehicles used in the trade. Besides being the first Europeans to use the rivers in commerce, the French left such names as Grand, Verdigris, Illinois, and Poteau Rivers, Sans Bois Mountains, and Fourche Maline Creek in eastern Oklahoma.[4]

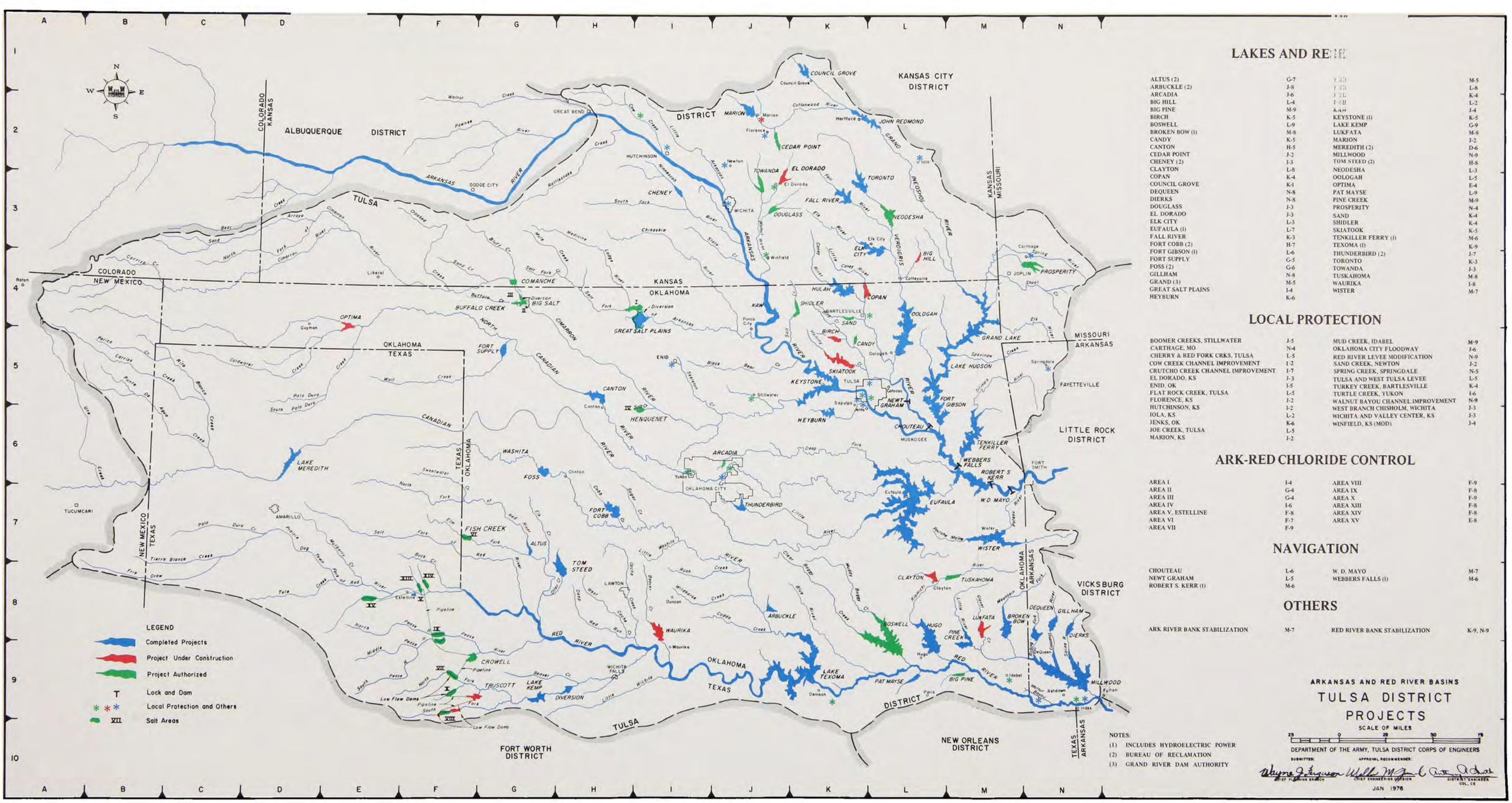
In 1762 as the end of the French and Indian War approached, France ceded to Spain her claim to lands west of the Mississippi, and the government of Louisiana at New Orleans was soon transferred to Spain. In 1800 Louisiana was retroceded by Spain to France in a bargain with Napoleon, who in 1803 sold Louisiana to the United States. The treaty of cession left the boundaries indefinite and it was not until 1819 that representatives of Spain and the United States agreed upon them. The south bank of the Red River from a point 27 miles above Fulton, Arkansas, to the 100th meridian, and that meridian from the Red River north to the Arkansas River formed a section of the new international boundary. By the annexation of Texas in 1845 and the Treaty of Guadalupe Hidalgo at the end of the Mexican War in 1848, the remainder of the area included in the Tulsa District came into the possession of the United States.

In the early 19th century American traders began to establish themselves along the rivers, and there was also a migration of Osage Indians, encouraged by the famous French trading family, the Chouteaus, from western Missouri into the area of northeastern Oklahoma dominated by the Verdigris, Grand, and Arkansas Rivers. The area above Muskogee and around the confluence of the three streams, soon known as the Three Forks, became the center of a lucrative trade.[5]

After 1821 when Missouri was admitted to the Union with the compromise that prohibited slavery north of 36 degrees 30 minutes in the Louisiana Purchase west of Missouri, migration of frontiersmen paused at the western boundary of Missouri. By this time the process of setting aside an Indian Territory to which eastern Indians would be removed was well along. In 1830 the Indian Removal Act made removal of eastern Indians to the west an official policy, and although the boundaries of Indian Territory were only vaguely defined, Congress did remove from settlement the area

[4] Anna Lewis, *Along The Arkansas* (Dallas, Texas: The Southwestern Press, 1932), pp. 7-193; Mildred Mott Wedel, "J.-B. Bénard, Sieur De La Harpe: Visitor to the Wichitas in 1719," *Great Plains Journal* 10 (Spring 1971): 37-70; Arrell M. Gibson, *Oklahoma: A History of Five Centuries* (Norman, Oklahoma: Harlow Publishing Corporation, 1965), pp. 25-44; Intervs, Larry Banks, 19 Mar, 21 Jun 74.

[5] Gibson, *Oklahoma*, pp. 45-46, 56-67; Grant Foreman, *A History of Oklahoma* (Norman: University of Oklahoma Press, 1942), pp. 3-11.




## LAKES AND RE[illegible]

| | | | |
|---|---|---|---|
| ALTUS (2) | G-7 | [illegible] | M-5 |
| ARBUCKLE (2) | J-8 | [illegible] | L-8 |
| ARCADIA | J-6 | [illegible] | K-4 |
| BIG HILL | L-4 | [illegible] | L-2 |
| BIG PINE | M-9 | [illegible] | J-4 |
| BIRCH | K-5 | KEYSTONE (1) | K-5 |
| BOSWELL | L-9 | LAKE KEMP | G-9 |
| BROKEN BOW (1) | M-8 | LUKFATA | M-8 |
| CANDY | K-5 | MARION | J-2 |
| CANTON | H-5 | MEREDITH (2) | D-6 |
| CEDAR POINT | J-2 | MILLWOOD | N-9 |
| CHENEY (2) | I-3 | TOM STEED (2) | H-8 |
| CLAYTON | L-8 | NEODESHA | L-3 |
| COPAN | K-4 | OOLOGAH | L-5 |
| COUNCIL GROVE | K-1 | OPTIMA | E-4 |
| DEQUEEN | N-8 | PAT MAYSE | L-9 |
| DIERKS | N-8 | PINE CREEK | M-9 |
| DOUGLASS | J-3 | PROSPERITY | N-4 |
| EL DORADO | J-3 | SAND | K-4 |
| ELK CITY | L-3 | SHIDLER | K-4 |
| EUFAULA (1) | L-7 | SKIATOOK | K-5 |
| FALL RIVER | K-3 | TENKILLER FERRY (1) | M-6 |
| FORT COBB (2) | H-7 | TEXOMA (1) | K-9 |
| FORT GIBSON (1) | L-6 | THUNDERBIRD (2) | J-7 |
| FORT SUPPLY | G-5 | TORONTO | K-3 |
| FOSS (2) | G-6 | TOWANDA | J-3 |
| GILLHAM | N-8 | TUSKAHOMA | M-8 |
| GRAND (3) | M-5 | WAURIKA | I-8 |
| GREAT SALT PLAINS | I-4 | WISTER | M-7 |
| HEYBURN | K-6 | | |

## LOCAL PROTECTION

| | | | |
|---|---|---|---|
| BOOMER CREEKS, STILLWATER | J-5 | MUD CREEK, IDABEL | M-9 |
| CARTHAGE, MO | N-4 | OKLAHOMA CITY FLOODWAY | J-6 |
| CHERRY & RED FORK CRKS, TULSA | L-5 | RED RIVER LEVEE MODIFICATION | N-9 |
| COW CREEK CHANNEL IMPROVEMENT | I-2 | SAND CREEK, NEWTON | J-2 |
| CRUTCHO CREEK CHANNEL IMPROVEMENT | I-7 | SPRING CREEK, SPRINGDALE | N-5 |
| EL DORADO, KS | J-3 | TULSA AND WEST TULSA LEVEE | L-5 |
| ENID, OK | I-5 | TURKEY CREEK, BARTLESVILLE | K-4 |
| FLAT ROCK CREEK, TULSA | L-5 | TURTLE CREEK, YUKON | I-6 |
| FLORENCE, KS | J-2 | WALNUT BAYOU CHANNEL IMPROVEMENT | N-9 |
| HUTCHINSON, KS | I-2 | WEST BRANCH CHISHOLM, WICHITA | J-3 |
| IOLA, KS | L-2 | WICHITA AND VALLEY CENTER, KS | J-3 |
| JENKS, OK | K-6 | WINFIELD, KS (MOD) | J-4 |
| JOE CREEK, TULSA | L-5 | | |
| MARION, KS | J-2 | | |

## ARK-RED CHLORIDE CONTROL

| | | | |
|---|---|---|---|
| AREA I | I-4 | AREA VIII | F-9 |
| AREA II | G-4 | AREA IX | F-8 |
| AREA III | G-4 | AREA X | F-9 |
| AREA IV | I-6 | AREA XIII | F-8 |
| AREA V, ESTELLINE | F-8 | AREA XIV | F-8 |
| AREA VI | F-7 | AREA XV | E-8 |
| AREA VII | F-9 | | |

## NAVIGATION

| | | | |
|---|---|---|---|
| CHOUTEAU | L-6 | W. D. MAYO | M-7 |
| NEWT GRAHAM | L-5 | WEBBERS FALLS (1) | M-6 |
| ROBERT S. KERR (1) | M-6 | | |

## OTHERS

| | | | |
|---|---|---|---|
| ARK RIVER BANK STABILIZATION | M-7 | RED RIVER BANK STABILIZATION | K-9, N-9 |

NOTES:
(1) INCLUDES HYDROELECTRIC POWER
(2) BUREAU OF RECLAMATION
(3) GRAND RIVER DAM AUTHORITY

ARKANSAS AND RED RIVER BASINS

# TULSA DISTRICT PROJECTS

SCALE OF MILES

25 0 25 50 75

DEPARTMENT OF THE ARMY, TULSA DISTRICT CORPS OF ENGINEERS

SUBMITTED: Wayne J. Ferguson, CHIEF PLANNING BRANCH

APPROVAL RECOMMENDED: Walter M. Grant, CHIEF ENGINEERING DIVISION; Arthur J. Smith, DISTRICT ENGINEER, COL, CE

JAN 1976

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west of Arkansas Territory and Missouri between the Red River and the Platte, and it was understood that the area west of Arkansas was reserved for the Five Civilized Tribes.

The 1844 report of the Commissioner of Indian Affairs included a census that showed there were 60,000 Indians settled south of the 37th parallel, nearly all eastern Indians who had been removed there. In the Indian Territory between the 37th parallel and the Platte, Osages numbered about 4,000, Pawnees about 1,200, eastern Indians less than 5,000, and other western groups about 2,000.[6]

The Five Civilized Tribes (Cherokee, Creek, Choctaw, Chickasaw, and Seminole) south of the 37th parallel included many who transplanted a Southern planter way of life to the new frontier. For instance, one of the wealthiest Choctaws was Robert Jones who operated Red River plantations, owned 500 slaves, and had his own fleet of river boats. The white traders who, with Indian wives, had established mixblooded families, had for the most part been men of superior character and ability. Among the mixbloods there was an aristocracy, while at the lower end of the social and economic scale were many fullbloods who continued to live a primitive life. But there were many very able fullblooded leaders among their people. The Indian society in the 1840s and 1850s was not one of semicivilized savages, but was more nearly that of a typical frontier. An agricultural economy developed, supplemented by the products of the forest, which produced a surplus for export, and of course these people were a market for necessities and other traders' goods they did not produce.

The five Indian republics were modeled after the white man's governments, and they functioned well although handicapped by divisions that had in part grown out of removal and that usually saw conservative fullbloods pitted against more progressive mixbloods. When the Civil War came, there was some sincere sympathy for the South, but factors largely beyond the control of the Indians determined that all five Nations would make treaties of alliance with the Confederacy and give it substantial support even at the cost of civil war within the Creek Nation and serious dissension in the Cherokee Nation. In the treaties made in 1866 the US Government forced the Indians to pay dearly for this "disloyalty" by requiring them either to cede outright or in trust to the Government approximately one-half of their domain with the understanding that it would be used as a home for other Indians who would be removed from Kansas, Nebraska, and elsewhere. These two states had been opened to settlement by the Kansas-Nebraska Act of 1854, and Kansas was admitted to the Union in 1861; Nebraska in 1867. The treaties of 1866 were followed in the next 20 years with the creation of numerous Indian reservations in the ceded lands.[7]

Missionaries, teachers, Indian agents and their staffs, Army personnel, and licensed traders had been legal residents of the Indian Territory before the Civil War. With the end of slave ownership the Indians brought in white families to farm, on a crop-rental basis, the land which was owned in common. Soon laborers were admitted to work in the coal mines which were first opened in the Choctaw Nation. Then came railroad building crews. And there were also intruders with no legal right to be in the Indian Territory.[8]

Until the Missouri, Kansas & Texas Railroad (Katy) completed its line from the north across Indian Territory and ran its first train into Denison, Texas, on Christmas Day 1872 the Arkansas and Red Rivers had been, in the seasons of the year when there was enough water, the arteries of commerce with the outside world for the diverse occupants of the southern two-thirds of Indian Territory and an area of northern Texas. The legend and romance entwined in the accounts of the trials and the achievements of the boatmen provide a colorful background against which hard-headed businessmen of the 20th century concluded that the Arkansas River could again be made navigable, and to good advantage too. The Army and its Corps of Engineers, the agent that would build the navigation system, became a part of the river legend well before 1872.

The role of the Army in the exploration and defense of the frontier is well known to students of the American West. The Army was also the agent of the US Government in the improvement and development of inland waterways and from the Government's first involvement in internal im-

[6] Roy Gittinger, *The Formation of the State of Oklahoma 1803-1906* (Norman: University of Oklahoma Press, 1939), pp. 27-29.

[7] Gibson, *Oklahoma,* pp. 121-82, 193-214, 235-58.

[8] Ibid., pp. 259-86; Edward Everett Dale and Morris L. Wardell, *History of Oklahoma* (New York: Prentice-Hall, Inc., 1948), pp. 272-88.

provements the Corps of Engineers was essential to this function.

The interest of the Army and its engineers in the area of the Louisiana Purchase was at first related to defense, and exploration was essential to that and the ultimate resolution of the boundary conflict. The Spanish forces succeeded in turning back the Red River expedition of CPT Richard Sparks in the summer of 1806 after intercepting him as he entered the southeast corner of present Oklahoma. The famed CPT Zebulon M. Pike was more fortunate, for a large Spanish force missed him in Kansas and he was able to go on to the Rocky Mountains. LT James B. Wilkinson, with five men, left the Pike party on 28 October 1806 at a point above present Great Bend, Kansas, and in the months of November and December descended the complete Oklahoma segment of the Arkansas River, traveling past the site of Fort Smith on New Year's Day, 1807, and on down the Arkansas and the Mississippi to New Orleans where his father was in command.

The journal of Lieutenant Wilkinson, an infantryman, tells of his side trips as well as the river. He passed several Osage villages and also some Cherokee, Choctaw, and Creek camps; met American trappers on the Poteau and other streams; and visited Joseph Bogy, one of the earliest American traders at the Three Forks. Wilkinson's description of the river, which was not full enough in places for his pirogues to navigate, is that of a seemingly clear water stream, and he noted the falls in the stream soon to be called Webbers Falls.[9]

In 1817 the Army established Fort Smith overlooking the Arkansas below the confluence of the Poteau. The site was selected and named Belle Point by MAJ Stephen H. Long of the Topographical Engineers. The immediate reason for founding Fort Smith was hostilities between the Osages and the western Cherokees, which the presence of troops was expected to reduce before white residents were engulfed in the conflict.[10]

Stephen H. Long came back to Belle Point unintentionally in 1820 on the last leg of his famed Yellowstone Expedition which had started in June of 1819 from Saint Louis. After delays, problems, and changes in plans which cannot be detailed here, Long and his men were in the Rockies near the headwaters of the Arkansas by July 1820. He divided his party, directing CPT John R. Bell and 12 men to follow the Arkansas to Fort Smith. Bell's group which included the noted zoologist, Thomas Say, but minus three deserters who took the field notes with them, arrived at Fort Smith on 9 September 1820, hungry and exhausted from the extreme heat and hardship of travel.

Major Long, accompanied by the distinguished botanist and geologist, Edwin James, led the remainder of his men southward to find the Red River and explore it to its mouth. He mistook the Canadian for the Red River, and without knowing it for sure until he entered the Arkansas, he traversed that part of eastern New Mexico and Oklahoma through which the Canadian flows during a terribly hot, dry summer. This caused him to characterize the area east of the Rockies which includes the Texas Panhandle and western Oklahoma as the "Great American Desert."[11] Of it Long and James said:

> We have little apprehension of giving too unfavorable an account of this portion of the country. Though the soil is in some places fertile, the want of timber, of navigable streams, and of water for the necessities of life, render it an unfit residence for any but a nomad population. The traveller who shall at any time have traversed its desolate sands, will, we think, join us in the wish that this region may forever remain the unmolested haunt of the native hunter, the bison, and the jackall.[12]

The myth that Long helped create and sustain died very slowly.

The influx of traders, white settlers, and Indians made advisable the location of numerous other forts in the Indian country over the next 50 years and the laying out of military roads between them. Two of these are related to the river story more than the others. At the time of its founding in 1824, Fort Gibson, on the east bank of the Grand, 3 miles above its mouth, was the westernmost military installation of the United States. Three months after the construction of Fort Gibson began, Fort Towson was started

[9] Gibson, *Oklahoma*, pp. 47-50; Wilkinson's Report from Z. M. Pike, *The Expeditions*, II:555-61, quoted in Edward Everett Dale and Jesse Lee Rader, eds. *Readings in Oklahoma History*, (Evanston, Illinois: Row, Peterson and Company, 1930), pp. 68-70.

[10] Gibson, *Oklahoma*, pp. 51-52; Richard George Wood, *Stephen Harriman Long 1784-1864: Army Engineer Explorer Inventor* (Glendale, California: The Arthur H. Clark Company, 1966), pp. 52-53.

[11] Wood, *Long*, pp. 59-119.

[12] Gibson, *Oklahoma*, pp. 54-55.

on Gates Creek about 5 miles north of the mouth of the Kiamichi. Fort Gibson had a continuous existence until 1857, and Fort Towson, with some interruption and relocation not far away, continued until 1854. Fort Gibson was a Confederate garrison during the Civil War until 1863 when Union forces occupied it, and it remained in service until 1890 when it was permanently abandoned.[13]

During and after the Indian removal large segments of the Choctaw and Chickasaw population found the Red River accessible to them. Likewise the Arkansas was available for the commerce of all the tribes. Fort Gibson and the whole Three Forks region were exceptionally well located for trade with large areas of all the Indian Nations so long as that trade depended upon use of the streams. By the time Fort Gibson was built, numerous trading firms were established throughout the Three Forks area and a network of roads and trails supplemented the rivers.

Before the advent of the stern wheel steamboat on western waters, the flatboat and the keelboat provided the means of transporting the larger cargoes despite the laborious effort required to manipulate them, especially on their upstream course as they were towed, warped, poled, or rowed on their slow and tedious voyage. Yet it was the keelboat which transported the soldiers who built Fort Smith, Fort Gibson, and Fort Towson, and it continued to be used, often being towed by the steamboat, for a long time.

The *Comet,* which left New Orleans on 23 March 1820 and arrived at Arkansas Post on 31 March, was the first steamboat to enter the Arkansas. In March of 1822, the *Eagle* which was loaded with supplies for the Dwight Mission to the Cherkoee Indians in present Pope County, Arkansas, passed Little Rock before shallow water halted it. Better water conditions soon prevailed and in mid-April of 1822 the *Robert Thompson* with a keelboat in tow landed at Fort Smith, which for a few years was considered the head of navigation. Supplies for the Three Forks were unloaded and shipped on by keelboats or wagon.

In 1824 the *Florence* reached Fort Gibson and others followed. Fort Gibson replaced Fort Smith as the head of navigation by late April of 1827 when three steamboats—the *Velocipede,* the *Scioto,* and the *Catawba*—arrived there. Before the end of May the *Highland Laddie* came upstream to Fort Gibson with a cargo from New Orleans for the sutler at the post. In February 1828 CPT Phillip Pennywit's *Facility* reached the Fort Gibson landing towing two keelboats carrying several hundred Creek Indians. It was the *Facility* that in May of 1829 brought Sam Houston to the mouth of the Illinois after he had resigned the governorship of Tennessee and left his wife to come to the Indian country to live for a time among his Cherokee friends. By 1831 boats were coming to the Three Forks on regular schedule. The heyday of this river traffic was the 1840s and 1850s when 22 landings between Fort Smith and Fort Gibson could be counted.[14]

The significance of river travel is illustrated by the experiences of the Reverend Robert M. Loughridge, missionary and teacher among the Creeks for over 40 years. His first trip of 600 miles to the Indian Territory to arrange for his work there was made, in the absence of railroads, on horseback from Eutaw, Alabama, in November 1841. After crossing the Mississippi at Memphis, he followed "that most miserable wagon road," as he described it, across Arkansas to Van Buren and thence to Fort Gibson and the Creek Agency. But when he and his newly wed "missionary wife" came to stay, they made the entire trip from Selma, Alabama, by boat, departing that place on the night of 26 December 1842 on the Steamer *Arkansas.* Their route was down the Alabama River to Mobile, thence to New Orleans, from New Orleans up the Mississippi to the Arkansas, and up that stream to the Verdigris and Verdigris Landing. The journey required 6 weeks with delays between the stages accounting for approximately half of the time. Loughridge wrote a friend of their arrival:

On the evening of the 8th of February our little steamer left the

[13] Ibid., pp. 184-186.

[14] Much has been written about early navigation of the Arkansas. Three excellent articles on which this account is based are: Muriel H. Wright, "Early Navigation and Commerce Along the Arkansas and Red Rivers in Oklahoma" *Chronicles of Oklahoma* 8 (March 1930): 65-88; Grant Foreman, "Steamboats Traveled Up and Down the Arkansas River Over 100 Years Ago," *Muskogee* (Oklahoma) *Daily Phoenix,* 11 May 38; and C. L. Packer, "Keelboaters' Heyday to Doomsday," *Frontier Times,* Feb-Mar 71, pp. 14-18, 50-52.

red and brackish waters of the Arkansas and entered our own little river the deep clear and beautiful Virdigris [*sic*]. As she hastened over the short distance of four miles to the head of Navigation, carrying us swiftly to our destined home, the Creeks, in considerable numbers, made their appearance along the bank to gaze on the scene. . . .[15]

Navigation was possible only during the months of the year when there was sufficient water in the stream. Especially constructed boats of 75 to 150 tons burden that required the smallest possible draught still had difficulties. The shallow rapids at Webbers Falls and the Devil's Race Ground, 17 to 20 miles below Fort Gibson, were particularly hazardous, requiring skill to navigate in addition to favorable water conditions. Delays were frequent due to low water, boats running aground on sandbars, or hitting snags, concealed rocks, and trees floating under the surface. Historian Grant Foreman has commented: "The life of the busy little river steamers was a precarious one; snags, fires and boiler explosions claimed them nearly all sooner or later; few were permitted to wear out in the service."[16]

The hazards no doubt would have been greater had not the Army Engineers since 1832 been doing all that the limited funds appropriated by Congress provided to improve the river for navigation. The same year Fort Gibson was built, Congress authorized the President to employ officers of the Corps of Engineers in internal improvement work. Until that year the Corps-operated West Point was the only engineering school in the country, and it was the leading one until the Civil War, thus providing the most competent engineers available for river work. However, efforts failed in 1828 to get funds for work on the Arkansas; in 1829 the House voted $15,000, but the Senate did not approve; in 1830 President Andrew Jackson vetoed a $15,000 appropriation; but finally the River and Harbor Act of 1832 voted $15,000 and authorized the Army Engineers to maintain a channel in the Arkansas to the mouth of the Grand.[17]

Snagging, dredging, revetment works, some channel modification, and removal of bars were authorized by subsequent acts of Congress, but there were intervals when, in the absence of funds, work stopped. High waters usually prevented permanent benefits from these activites, but they continued. In 1869 the *S. Thayer,* a snagboat of light draught especially designed for use on the Arkansas, was built in Cincinnati and dispatched to Fort Smith.[18] In 1881 the Corps managed to get the snagboat *Wichita* to Pawnee Agency, 65 miles above Tulsa. After a wait of over 3 months for sufficient water to float the *Wichita* back downstream, the thought of clearing the river of snags to Wichita was abandoned.[19] By 1902, after 70 years, the Engineers had spent $1 million on improvement of the Arkansas above Pine Bluff,[20] and a total of $2.25 million on the entire stream. The operation of snagboats had cost slightly over $1 million.[21]

Despite the hazards, as long as there was no easier means of transportation, water commerce continued on the Arkansas. The earliest report of a Corps of Engineers survey of the Arkansas which was submitted to Congress included interesting information about the use of this river. The report of S. T. Abert, Assistant Engineer in charge of the survey, is dated 28 February 1870. He found that during the winter months and the period of the June rise, steamboats carrying 700 tons could reach Fort Smith. The narrow channel above Fort Smith was obstructed by snags, and from there to Fort Gibson "small steamers drawing, when not loaded, one foot, are usually employed." Twenty steamboats, averaging 300 tons burden, were plying between Fort Gibson, Fort Smith, Little Rock, and New Orleans; Memphis, Saint Louis, and Cincinnati. Abert's report said the amount of "up and down

[15] William R. Gilmore, "The Life and Work of the Reverend Robert McGill Loughridge Missionary to Creek Indians" (M. A. Thesis, University of Tulsa, 1952), pp. 27-28, 36-37. Letter quoted is Loughridge to Walter Lowry, 25 May 1843.

[16] Foreman, "Steamboats Traveled."

[17] Forest G. Hill, *Roads, Rails & Waterways* (Norman: University of Oklahoma Press, 1957), pp. 153-80; "River Bill Sought $25,000 in 1828," Arkansas Waterway Edition, *Tulsa Tribune,* 4 Jun 71.

[18] *Annual Report of Chief, 1869,* p. 286.

[19] H. Doc. 308, 74th Cong., 1st sess., 1935, I:152.

[20] *Annual Report of Chief, 1938,* pt. 1, p. 962.

[21] *Annual Report of Chief, 1915,* pt. 1, p. 987.

river trade received and shipped at Fort Gibson, I. T., is about 25,000 tons annually, exclusive of government freight." This latter amounted to about $5,000,000 annually, and consisted of dry goods, groceries, hardware, machinery, and sutler's stores. The value of corn, tobacco, lead, and coal shipped at points along the river was unknown.[22]

Navigation of the Red River above Fulton, Arkansas, was less successful, but it too was significant, even though retarded in varying degrees by existence of the "Great Raft." The log raft was centuries old when first encountered by French explorers. It had begun near the mouth of the river and had grown as each rain farther upstream washed down new timber to add to the raft. The raft was skirted along its western edges by La Harpe in 1719 by crossing flooded prairies and utilizing sloughs and lakes created by the damming effect of the logs as the raft grew upstream. The raft virtually blocked the main channel of the river, but the impounded water in and around the raft provided access to the river above Fulton. Utlimately the head of the raft extended several miles above the Arkansas-Louisiana state line. It is known to have impounded water which damaged farmland as much as 65 miles above the raft. Throughout most of the 1800s the raft extended more than 100 miles upstream from a point 50 miles above Natchitoches, Louisiana.

CPT Henry M. Shreve, inventor of the snagboat and famous for his adaptation of the steamboat for use in western rivers, supervised work in the 1830s that took several years to open temporarily a channel through the Great Raft. Many men who worked at removing the log raft are said to have died from malaria. Shreve stated that mosquitoes were like "huge gray clouds." Removal of the raft was one of the major accomplishments of civil works in the 1800s.

The river was not impassable before this clearance. In June 1831 the *Enterprise* with two keelboats in tow reached the mouth of the Kiamichi after passing through the winding bayous and narrow cutoffs around the Great Raft. The mouth of the Washita was the shipping point on the north side of the Red River farthest upstream, but it was reached only during high water. In 1853 there were 32 landings, as well as private docks, above Shreveport. Fort Towson Landing was probably the most important one for the Indian Territory. Through the years the Army Engineers worked at snagging and clearing of rafts, which served as fixed dams at times to actually improve navigation. By 1873 when the Katy Railroad provided transportation northward from Denison, the Engineers had succeeded in driving a channel that would stay through the Great Raft, only to see the river fall into declining usage. Anticipation of the opening of the river by the Engineers had brought a land speculation boom at Paraclifta, since the early 1800s the center of antebellum culture in the southwest corner of Arkansas, but the building of the Katy killed the boom and the town was abandoned.[23]

It is interesting that the upper Red River was not explored and its sources identified until 1852. In that year Randolph B. Marcy, Captain, Fifth Infantry, assisted by George B. McClellan, Brevet Captain US Engineers, carried on extensive explorations of the Red River above the mouth of the Washita. Their discovery of the North Fork of Red River opened a question as to whether the North Fork was the Red River intended in the Treaty of 1819 with Spain—a question finally settled when the US Supreme Court in 1896 rejected the North Fork as the Red River. If the Court had not so decided, the land between the two forks east of the 100 meridian would have belonged to Texas.[24]

Strangely the surge in railroad building in the Arkansas Basin, with the resultant decline of river traffic and the simultaneous population increase and economic development of the Arkansas Basin, did not kill forever the interest in navigation of the Arkansas. In fact, in some ways it served to intensify that interest.

[22] US Congress, House, *Survey of Arkansas River,* H. Ex. Doc. 295, 41st Cong., 2d sess., 1870, pp. 28-29, 33.

[23] Florence L. Dorsey, *Master of the Mississippi* (New York: Literary Classics, Inc., 1941), pp. 164-89; Wright, "Early Navigation," pp. 64-65, 75-88; "Red River Basin Above Fulton, Arkansas," pp. 7-9; Intervs, Larry Banks, 19 Mar and 21 Jun 74. Mr. Banks, an archaeologist in the Corps of Engineers, Tulsa District, has done extensive research on both La Harpe and the "Great Raft."

[24] US Congress, Senate, *Exploration of the Red River of Louisiana in the Year 1852,* S. Ex. Doc. 33d Cong., 1st sess., 1854; Randolph B. Marcy and G. B. McClellan, *Adventure on the Red River: Report on the Exploration of the Headwaters of the Red River,* ed. and annotated by Grant Foreman (Norman: University of Oklahoma Press, 1937), pp. 5-22.

## CHAPTER III

*It takes at least four acts of Congress to get anything done by the US Engineers.* [1]

The years from 1866 to 1907 saw the transformation of the Oklahoma part of the Arkansas and Red River Basins from an Indian country into a State. Cattle drives which began in 1866 from Texas to the railroad towns in Kansas continued through the 1870s to 1880s, and cattlemen made agreements with the Indians which permitted them to graze their cattle on sparsely settled lands. They also used the Oklahoma Panhandle which no state claimed, and an area of 2,000,000 acres of unoccupied lands, called variously Old Oklahoma, the Oklahoma Lands, and the Unassigned Lands, in the central part of the State. The cattlemen's utilization of land on which permanent white settlement was forbidden focused attention on the area and thus helped cause the Boomer Movement for opening the Unassigned Lands to settlement and extinction of the Indian title to reservation lands west of the Five Civilized Tribes.

The Boomer Movement was successful, and on 22 April 1889 the sound of the signal guns at 12:00 noon along the border started the mad scramble of would-be homesteaders into the Unassigned Lands. The next year an act of Congress created Oklahoma Territory consisting of six counties in the area of the first run plus a seventh county called Beaver—the whole Oklahoma Panhandle. Between 1889 and 1906 the Indian occupants of reservations accepted individual ownership of land and the surpluses were opened to settlers through runs and lotteries. The Osages in 1906 were the last to give up tribal ownership when they divided the surface among 2,229 Osages and retained the mineral rights in common. Oklahoma Territory had been expanded with each opening and by 1906 there were two distinct areas of about equal size in the future state—Oklahoma Territory in the western half and Indian Territory in the eastern half.

The movement of whites into Indian Territory had continued with the result that by 1890 they outnumbered the Indians two to one. Pressure from many sources, including "reformers" who thought they were helping the Indians, brought allotment in severalty of the Five Tribes' lands and extinction of their governments in a process that extended from the early 1890s into the 20th century. In 1907 Oklahoma Territory and Indian Territory were combined and admitted to the Union as the State of Oklahoma. The total population of the two territories at the time of statehood was 1,500,000.[2]

In 1910 the population of the Arkansas River Watershed was nearly 2,800,000. Of these, 420,000 lived in Arkansas and 1,100,000 in Oklahoma, the two states most interested in Arkansas River navigation. Over 763,000 people lived in the Arkansas Basin in Kansas. Cities on the main stem of the river had approximate populations in 1910 as follows: Pine Bluff, 15,000; Little Rock, 46,000; Fort Smith, 24,000; Muskogee, 25,000; Tulsa, 18,000; and Wichita, 52,000.[3] In that year the railroad mileage in Arkansas totaled more than 5,300 and in Oklahoma nearly 6,000.[4] Although these miles of track were distributed over the entire states, the railroads were so located that they penetrated well the region that Arkansas River navigation had served.[5]

River traffic tapered off slowly after 1872, but by the end of the century Arkansas River navigation was dead despite the colorful trips of the *Aunt Sallie* from Fort Smith, Arkansas, to Arkansas City, Kansas, and return in June and July 1878 without cargo

[1] Elmer Thomas to E. Warren Young, 28 Jan 47. Elmer Thomas Papers, Western History Collections, University of Oklahoma Library (hereafter cited as Thomas Papers).

[2] Gibson, *Oklahoma,* pp. 235-338; Dale and Wardell, *History of Oklahoma* pp. 179-299.

[3] US Congress, House, *Arkansas River and Tributaries.* H. Doc. 308, 74th Cong., 1st sess., 1935, 1:30-36.

[4] Interstate Commerce Commission, *Twenty-third Annual Report of Statistics of Railway in the United States for the Year Ending June 30, 1910* (Washington: Government Printing Office, 1912), p. 12.

[5] See railroad maps in V. V. Masterson, *The Katy Railroad and the Last Frontier* (Norman: University of Oklahoma Press, 1952), pp. 235, 270, 283.

and the *Kansas Millers* which went from Fort Smith in July 1885 to Arkansas City and returned in June 1886 towing two barges that had been built at Arkansas City.[6]

Despite the drastic decline in river commerce, interest in navigation continued, and dramatic efforts were made at Little Rock and Muskogee to revive it in the first decade of the 20th century. In 1904 the *Delta* made the run from Memphis to Little Rock, the first such voyage in 15 years. In 1909 Little Rock businessmen formed the Little Rock Packet Company which purchased two boats, the *Grand* and the *Rapids* which had been built at Grand Rapids, Michigan. After a challenging journey from Michigan via Lake Michigan, the Fox, Wisconsin, and Mississippi Rivers to the mouth of the Arkansas, they arrived at Little Rock on 19 June 1909, but these efforts did not revive for long the business of navigation.[7]

At Muskogee, navigation promoters had only slightly more success. In 1906 Charles N. Haskell, soon to be Oklahoma's first governor, and five associates contributed $500 each toward the purchase of the *Mary D.* Using the name Arkansas Navigation Company, the *Mary D's* owners operated her successfully between Muskogee and Fort Smith for several years. Early in the venture a cargo of nails and barbed wire was shipped from Kokoma, Indiana, to Redland, Indian Territory, by rail and from Redland to Muskogee on the *Mary D.* To the surprise of the Muskogeeans, "the freight charge was nearly 50 percent less than it would have been by an all-rail carriage." Motivated by the prospect of cheaper freight rates, the Muskogee Commercial Club sent A. C. Trumbo and John R. Dudding to Jeffersonville, Indiana, where in the name of the club they contracted for the construction of a boat 125 feet long with a 3½-foot draught for $15,000. Christened the *City of Muskogee* when launched on 2 July 1908, the boat carried on its maiden voyage to the Three Forks numerous Muskogee boosters and 41 tons of cargo. A huge sign with the words "Bound for Oklahoma" decorated each side. Grant Foreman, late Muskogee lawyer-historian and a meticulous researcher, has written, "This adventure in navigation actually brought a marked reduction of freight rates to Muskogee, resulting in the location here of important business establishments which became permanent assets to the city."[8] By 1913 J. J. Harmon of Muskogee was represented as the owner of the *City of Muskogee* and the Tulsa Chamber of Commerce had a committee negotiating seriously with Harmon for boat service to Tulsa.[9]

Muskogee has been in the forefront of the movement for navigation of the Arkansas. Her brief experience with lower freight rates provides a key to understanding the motivation of practically all businessmen who have ever supported the navigation project, for they know well the relation between transportation costs and the economic growth of an area. Historically, where waterways parallel other means of carriage, the shipper has benefited substantially from reduced charges for all modes of transportation.[10]

There is truth in the often heard charge that many of the Nation's railroads were built by men more interested in stock manipulation and construction profits than in operating railroads as businesses. Possibly this factor was present in some of the lines that served the Arkansas River Basin. But whatever the reason, there was sufficient influence on Congress to keep the Corps of Engineers investigating the navigation potential of the Arkansas. Between 1870, when the S. T. Abert study alluded to in chapter II was published, and 1921, the Corps made 18 studies of aspects of navigation on the Arkansas; acts of Congress authorized 14 and House Resolutions, 2. Fourteen of the 18 were printed as house documents upon

[6] H. Doc. 308, 74th Cong., 1st sess., 1935, I:152; "Lack of Water Foiled Early Navigators," Arkansas Waterway Edition, *Tulsa Tribune*, 4 Jun 71.

[7] "First Decade of Century Saw River Traffic Efforts Made," Arkansas Waterway Edition, *Tulsa Tribune*, 4 Jun 71.

[8] Ibid.; LaVere Shoenfelt Anderson, "Romantic Steamboat Days Will Return Again to the Arkansas Declares This Veteran Pilot Who Once Plied the Sandy River," *Tulsa World*, 1 Nov 31; Grant Foreman, *Muskogee: The Biography of An Oklahoma Town* (Norman: University of Oklahoma Press, 1943), pp. 136-38. Quotations are from Foreman whose account is used when versions conflict as to details.

[9] Minutes of Meeting of Board of Directors, Tulsa Commerical Club, 13 Jan 13, 14 Feb 13 (hereafter cited as Commercial Club Minutes, with date).

[10] FONECON, I. E. Chenoweth, 29 Mar 74. Mr. Chenoweth is an attorney and specialist in traffic management.

submission. Many of these studies were limited to local problems, but five did deal with navigation to or above the Three Forks.[11] The recommendation of a survey report submitted to Congress on 7 December 1900 and printed as House Document 150, 56th Congress, 2d session, was summarized as follows:

> From an engineering point of view, the improvement of the river is feasible for open river navigation from its mouth to the mouth of the Grand River. The cost of the improvement would be large, and whether or not the time is opportune and the needs of the country sufficiently urgent for the inauguration of such work are matters for Congressional determination.[12]

The statement of engineering feasibility and the absence of any recommendation by the Corps for abandonment of improvement of the Arkansas for navigation must have encouraged the advocates of navigation. At least they remained active. To reconstruct the details of the promotional efforts of organizations and individuals, from Oklahoma's statehood in 1907 until the destructive flood of 1923, which added a new dimension to interest in control of the Arkansas, cannot be undertaken here; but enough of the story can be told to illustrate the hold the dream of navigation had on a small number of leaders.

The Trans-Mississippi Commercial Congress, representing 19 states and territories, held its 18th annual session in a new $40,000 convention hall in Muskogee 19-22 November 1907, and adopted unanimously a memorial to the President, Senate, and House of Representatives. After calling attention to earlier use of the Arkansas for navigation, the findings of selected Corps of Engineers reports, and the "present neglected condition" of the river, the memorial concluded with an expression of trust "that speedy means will be taken to restore this historic stream to her oldtime prestige as a commercial highway."[13]

The first legislature of the new State of Oklahoma passed a concurrent resolution, sponsored by Reps. Woodson E. Norvell and Cicero L. Holland and Sen. P. J. Yeager of Tulsa, memorializing Congress to improve the Arkansas from Tulsa to Fort Smith. The measure, approved by Gov. Charles N. Haskell on 16 March 1908, proposed deepening the river to provide a 6-foot channel between the two cities (about 145 river miles) at an estimated cost of $6,000,000.[14]

In late December 1911 Speaker of the House Champ Clark, who would go into the Democratic convention the next year as the leading contender for his party's presidential nomination, spoke in Tulsa. Democrats and Republicans alike, honored by his visit, joined to receive him in a most friendly manner, and they were repaid in kind when he discussed improvement of the Arkansas, suggested a plan to unite neighboring states to work for attainment of that goal, forecast success, and pledged his full support to the project. Thunderous applause was his audience's response, and the next morning the *Tulsa World* headlined that promise with the words "Favor Arkansas River Project" out of the multitude of topics he discussed.[15]

The Tulsa Commercial Club which became the Tulsa Chamber of Commerce, was the center of organized efforts to secure navigation of the Arkansas, and by 1910 one of its more important committees was the "Deep Waterways Committee" headed by L. F. J. Rooney. In that year the club, upon Rooney's recommendation, affiliated with the National Rivers and Harbors Congress and began supporting it financially and sending representatives to its annual meetings. Muskogee leaders seem also to have supported the Rivers and Harbors Congress. Rooney was, in 1911, the Oklahoma vice president of that organization, and he reported in October 1911 that in the two preceding years he had spent time and money giving publicity to the need for waterways improvement through his "papers on shallow water transportation which had been read

[11] Statistics compiled from [A Digest of] All Reports of the US Engineer Department on the Arkansas River and Tributaries. This typed and undated digest in the Tulsa District's library included reports from 20 September 1867 to 29 July 1935 and preliminary reports to 24 September 1940. The authorization for two of the studies was not given in the compilation.

[12] Ibid., p. 2; See also Floyd M. Clay, *A History of the Little Rock District US Army Corps of Engineers* (n.p: [Little Rock District US Army Corps of Engineers], 1971), pp. 7-16, for Corps of Engineers activities in this period.

[13] US Congress, House, Committee on Flood Control, *Control of the Destructive Flood Waters of the United States*, Hearings before the House Committee on Flood Control, 70th Cong., 1st sess., 1928, pt. 4, pp. 2558-60 (hereafter cited as *House Flood Control Hearings, 1927-28);* Foreman, *Muskogee,* pp. 135-36.

[14] *Tulsa World,* 17 Mar, 24 Apr 08; "Arkansas Navigation 50-Year Dream," *Tulsa Tribune,* 1 Mar 58.

[15] *Tulsa World,* 30 Dec 11; *Tulsa Democrat,* 31 Dec 11.

from New York to San Francisco and from the Gulf to the Lakes."[16]

In November 1915 the Chamber of Commerce sent delegates to Little Rock to attend a meeting of the Arkansas River Improvement Association and to participate in submitting data on potential freight tonnage at a hearing by the Corps of Engineers concerning the question of abandoning improvement of the Arkansas for navigation.[17] Muskogee was the site on 2 March 1916 of a meeting of the Association attended by "twelve enthusiastic river improvement boosters" from Tulsa. The organization put itself firmly behind a pending appropriation for Arkansas River work. Persuasive Tulsans invited delegates to visit Tulsa on 3 March as guests of the Chamber. Newspapers reported that 35 did, and were astonished and pleased by what they saw. The luncheon at the Hotel Tulsa with their hosts was a love feast of like-minded men. The Tulsans had succeeded in convincing the delegates that improvement of the river should include the reach to Tulsa instead of stopping at the mouth of the Grand.[18]

In addition to Rooney, prominent Tulsans R. T. Daniel, Patrick J. Hurley, J. O. Mitchell, Cyrus Avery, COL William Striker, and C. L. Holland were among the "true believers" of this area. Enthusiasm continued into 1917[19] but activity ebbed during the years of United States participation in World War I. In 1916 COL Clarence B. Douglas, a Muskogee newspaperman and river improvement promoter, became the executive secretary of the Tulsa Chamber of Commerce.[20] In 1919 the river committee, now with the name "Waterways Committee," was revived, but activities were low key for the next few years.[21]

Much had to occur in the realm of public policy formation before the water resource development desired in the Arkansas Basin could be implemented through the Corps of Engineers. The goals of local interests had not progressed at this stage beyond "restoration" of navigation to the Arkansas. Few were then aware of the complexity of the process.

US Sen. Elmer Thomas, one of the most powerful legislators in Washington after 4 years in the House and nearly 20 in the Senate, understood what was involved in 1947 when he tried to explain it to a constitutent distressed by the reply he had received from the Tulsa District Engineer to his plea for action on a flood problem on Crutcho Creek. Thomas wrote:

> I regret to have to advise that this organization is one of the slowest working groups in the entire government service. It takes at least four Acts of Congress to get anything done by the U.S. Engineers. First, a law has to be passed directing that a survey be made of any particular proposed project. Second, a law has to be passed appropriating money to cover such investigation and survey. Third, a law has to be passed approving the report submitted by the Engineers.
>
> ...only in cases where the report is favorable is the project approved. Then, after all this work is done, the Congress must appropriate money to start construction . . . . This makes it appear as if it is next to impossible to get anything done on short notice or within even a reasonable length of time.[22]

To this day the Corps of Engineers does not begin a study of a problem, except where it has continuing authority, until Congress, in recognition of a need, has directed and provided funds for such study. The Corps has accepted what reform-minded Sen. Francis G. Newlands called the "straightjacket" in which Congress placed it.[23] Senator Thomas' statement was an oversimplification. Corps literature presently sets forth 23 major steps in the conception, authorization, and construction of civil works projects.[24] Because the Corps can do very little without support by local interests, the

[16] Commercial Club Minutes, 2 Feb, 3 Mar, 7 Apr, 13, 19 May, 17, 18, 25 Nov, 9 Dec 10; 17 Jan, 27 Jan, 3 Feb, 5, 13 Oct, 14 Nov 11; and Minutes of Special Meeting of Public Affairs Committee, 5 Oct 11.

[17] Minutes of the Board of Directors of the Tulsa Chamber of Commerce, 14, 21 Oct, 1, 8, 11 Nov 15 (hereafter cited as TCC Minutes).

[18] *Tulsa Democrat*, 2, 3 Mar 16; *Tulsa World*, 3, 4 Mar 16; TCC Minutes, 3 Mar 16.

[19] TCC Minutes, 6 Feb 17.

[20] Ibid., 22 May 16. Douglas' military title came from his earlier election as colonel of the First Regiment of the Indian Territory Volunteer Militia.

[21] Ibid., 11 Apr 19.

[22] Elmer Thomas to E. Warren Young, 28 Jan 47. Thomas Papers.

[23] Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920* (Cambridge: Harvard University Press, 1959), p. 214.

[24] See *Water Resources Development Functions and Programs of the Corps of Engineers (Washington: Office of the Chief of Engineers US Army, May 1967), pp. 31-36.*

history of the Corps and the history of local interests are entwined beyond disentanglement. There is no better illustration of this than the Tulsa District where the growth of powerful and active local interests preceded and led to creation of the District. Hence the emphasis upon the evolutionary process through which policy and support developed.

Since 1824 the Army Engineers have been the instrument which translated national policy, as defined by Congress, regarding the Nation's waterways into action. The rationale for the constitutionality of Federal expenditures in this field was rooted in the commerce power, and hence projects undertaken by the Corps were, both theoretically and actually, related directly or indirectly to navigation. Congress in the 19th century had never authorized the Corps to deal with a water matter that did not involve navigation. The Mississippi River Commission (MRC) and the California Debris Commission, created by Congress in 1879 and 1893, respectively, for the lower Mississippi and the Sacramento-San Joaquin River systems were independent commissions through which Congress provided for Federal involvement in flood control in the name of navigation. The Corps was the principal maker and implementer of the policy of the two commissions. After 1913 when Congress appointed a commission of Army Engineers to study the Ohio River flood problems, the Corps undertook all flood control tasks assigned it.[25]

Throughout the Progressive Era conservation leaders labored diligently for creation of a permanent commission to coordinate the work of all Federal water resource agencies. They would have empowered it to make investigations, authorize projects, and even supervise construction. In this manner the multiple-purpose development of rivers could be planned and carried out. The Corps of Engineers—cautious not to exceed the congressional limitations on its functions, hesitant at this time about multiple-purpose development of streams, and zealous to retain its independence—effectively opposed the plan, and the conservationists obtained only a much diluted amendment to the Rivers and Harbors Act of 1917 which provided for appointment of a Waterways Commission. President Wilson, preoccupied with the war, did not appoint the commission, and the Federal Power Commission Act of 1920 repealed the legislation providing for it.[26]

The Flood Control Act which President Wilson signed on 1 March 1917 appropriated $45,000,000 for the MRC to spend on flood control in the lower Mississippi River Basin and $5,600,000 to the California Debris Commission. The measure has historic significance in that it acknowledged a Federal responsibility for flood control. Local interests in the Mississippi Basin were to provide rights-of-way for levees, contribute one-third of the construction cost, and maintain the levees constructed. The House Committee on Flood Control came into being in 1916 during consideration of the measure and was given permanent status by the act.[27]

Floods had been as much a part of the history of the Arkansas and Red Rivers as navigation, but unlike the case of navigation, there was no move in the basins to turn to the Federal Government to solve the problems of flooding until the 1920s. The flood of record at Little Rock occurred in 1833 and Tulsa's flood of record was in June 1923. The damage was more extensive in Tulsa in 1923 than in any other flood. Over 4,000 people were forced to leave their homes and damages were calculated in millions of dollars. Central and west-central Oklahoma suffered severely in 1923, for in October there was an even worse flood on the North Canadian than the June rise. During the famed 1927 Mississippi River flood the gauges at Little Rock came within 1.6 feet of the level reached in 1833 and registered the highest in the record-keeping of the Corps there. Tulsa fared better in 1927, for it was the rain that had fallen in eastern Oklahoma and western Arkansas and emptied into the Arkansas below the Verdigris that made the flood so severe below Fort Smith. Other floods of note on the Arkansas had occurred in 1844, 1876, 1877, and 1908, but farmers knew to expect the almost annual "June rise" which challenged their ingenuity if they were to make a crop.[28]

[25] Hays, *Conservation and the Gospel of Efficiency,* pp. 199-218.

[26] Ibid., and pp. 219-40.

[27] Ibid., pp. 230-39; Albert E. Cowdrey, *The Delta Engineers: A History of the United States Army Corps of Engineers in the New Orleans District* (n.p.: [New Orleans District US Army Corps of Engineers], 1971), p.35.

[28] H. Doc. 308, 74th Cong., 1st sess., 1935, I:44-63; US Congress, House, *Arkansas River and Tributaries Arkansas and Oklahoma.* H. Doc. 758, 79th Cong., 2d sess., 1946, pp. 36-40.

The Oklahoma City Chamber of Commerce reacted with positive action in 1923. A 14-member flood control committee was appointed with Ernest E. Blake, lawyer and civil engineer, as chairman, and this committee had begun to consider ways to protect Oklahoma City when the October flood convinced the members that its study must be broadened to include the whole State. The legislature created a commission for this purpose and Blake was named as chairman. On the initiation of Gov. Martin E. Trapp a multistate commission was named by the governors of the Arkansas River states, again with Blake as chairman. A comprehensive study of the Arkansas and Red River Basins was made, and a multiple-purpose plan for development of these rivers emerged. The key to flood control, irrigation, navigation, and other needs was to be a system of reservoirs on the tributaries of the streams.[29]

The great 1927 Mississippi River flood made imperative the prevention of destruction by floods, specifically on the lower Mississippi but also on all other streams with flood potentials. The "levees only" policy of the MRC had failed and a new method must be tried. Blake and his associates, the Tulsa interests, and members of the Congressional delegations of the Arkansas and Red River states were heard, and their input was significant.

Congress had begun a process for flood studies before the 1927 disaster. An act approved 31 May 1924 had provided for preliminary examinations of the Arkansas and major tributaries in accordance with provisions of the landmark act of 1 March 1917. The River and Harbor Act of 21 January 1927 had again authorized a preliminary examination and survey of the Arkansas and tributaries and also the Red River along with the other major river systems of the country for comprehensive, multiple-purpose development. This latter act was an enactment into law, with minor modifications, of House Document 308, 69th Congress, 1st session, 1926, which reported a study authorized by the River and Harbor Act of 3 March 1925.[30] The subsequent reports came to be called "308" reports. The flood of 1927 now had an expediting effect.

On 14 and 15 July 1927 a flood control conference was held in Tulsa attended by 350 delegates, including 11 members of Congress, representatives of the War and Agricultural Departments, and citizens from several states. As a result of the meeting, there was formed a permanent organization known as the Arkansas River Flood Control Association with Clarence B. Douglas, former Chamber of Commerce executive, as president.[31]

The Oklahoma City Chamber of Commerce sponsored the Arkansas and Red River Conservation and Flood Control Convention in Oklahoma City on 30 November and 1 December 1927. This seems to have developed out of the interstate commission already in existence and headed by E. E. Blake, who was thanked and praised in resolutions adopted. The Senators and Congressmen from the Arkansas and Red River states were "instructed to support no plan of flood control at public expense . . . which does not contemplate a comprehensive scheme for the conservation and use of flood waters which such conservation will reduce the flood flow, stabalize [*sic*] the rivers, promote navigation, assure commerce, and protect to the farthest possible extent the valleys of the tributaries . . . ." The convention resolved further "that no plan of flood control can be national in scope or be a proper national burden unless it protects all valleys from devastation . . . ."[32]

The Denison, Texas, Chamber of Commerce was represented at the Oklahoma City meeting by advocates of the construction of a "diversion dam" at Bear's [Baer's] Ferry, 6 miles northwest of Denison—the site of the future Denison Dam on the Red River. They went home and issued a report in

[29] *House Flood Control Hearings, 1927-28,* pt. 1, 335-60, 571-633, and 635-47; Robert S. Kerr, *Land, Wood and Water,* ed. Malvina Stephenson and Tris Coffin and with an introduction by Senator Lyndon B. Johnson (New York: Fleet Publishing Corporation, 1960), pp. 97-101; Draft of annual report to the Oklahoma City Chamber of Commerce by E. E. Blake dated 23 Nov 29 and minutes of meeting of State Flood Control Legislative Committee, Oklahoma Club, Oklahoma City, 27 Nov 23, in Don McBride Papers at Oklahoma State University Library (hereafter cited as McBride Papers).

[30] H. Doc. 308, 74th Cong., 1st sess., 1935, p. v.

[31] *House Flood Control Hearings, 1927-28,* pt. 4, p. 2554; TCC Minutes, 14 Jun, 19 Jul 27.

[32] Report of Committee on Resolutions, to the Arkansas and Red River Conservation and Flood Control Convention assembled at Oklahoma City, Oklahoma, on November 30-December 1, 1927. McBride Papers.

support of a Bear's [Baer's] Ferry Dam as part of a comprehensive flood control plan.[33]

The first point of attack for the Tulsa and Oklahoma City organizations was the hearings of the House Committee on Flood Control which the committee chairman, Rep. Frank R. Reid of Illinois, began on 7 November 1927 before Congress convened. In Tulsa it was decided to have Colonel Douglas in Washington throughout the hearings and consideration of legislation after Congress assembled. Cities along the Arkansas joined Tulsa in financial support. Douglas planned to stay for as long as 8 months if necessary.[34] Details of the arrangement regarding Ernest E. Blake are not known, but he seems to have spent much of the time in the capital city from the start of the hearings until enactment of legislation in May 1928. The concern of Douglas and Blake and their constituents was that the Arkansas and Red Rivers be on the agenda for action when Congress prepared it. They kept check on the witnesses and their testimonies and were well informed as to what was going on. Both gave testimony.

Douglas appeared before the committee after listening to 8 weeks of the hearings, and he tailored his statement to fit this circumstance. He knew the hesitance of conservative Congressmen to embark upon a costly program in a policy area that traditionally belonged to state and local governments or private groups, and he emphasized that his organization "takes the position that flood control is a national problem to be solved by national legislation and national authority, and that there is no other practical way . . . ." He also had found flood control "linked in the minds of many people with extended navigation" and in the minds of others in the arid areas with "conservation, storage reservoirs, and irrigation."[35] One senses that navigation was foremost among Douglas' interests in river improvement.

Blake was a superb witness. He had done his homework and his mind overflowed with information. The committee members were intrigued by him and his claims, and the give-and-take between him and them covers nearly 100 printed pages of the hearings. In addition to that, as a lawyer he was invited by Chairman Reid to prepare a brief in support of the constitutionality of Federal expenditures for flood control. He submitted it under the title, "Memorandum Brief on Congressional Power to Expend Public Money on Flood Control as an 'Internal Improvement'," and it became a part of the published record of the hearings. He found his main justification in the commerce power.[36]

Blake explained that he had been involved for 15 years in the study of flood control problems and during the last 3 years had been chairman of an interstate commission for the control of the Arkansas and Red Rivers. The commission had 27 members appointed by the States of Alabama, Louisiana, Mississippi, Arkansas, Texas, Oklahoma, Kansas, New Mexico, and Colorado. To finance the work of the commission, Oklahoma had appropriated $50,000, the Oklahoma City Chamber of Commerce gave $28,000, other chambers of commerce had contributed, counties and cities helped, New Mexico appropriated $60,000, Colorado did the work under its water laws, the railroads provided engineers, and contributions came from other sources. About $200,000 had been available to the commission for its studies. With maps and data Blake concentrated upon 95 proposed reservoirs in Oklahoma, but the commission proposed a total of 139, two of which were in Colorado, two in New Mexico, one in Texas, and 39 in Kansas.

The commission's engineers estimated, according to Blake, that in addition to local protection, the proposed control of the Arkansas would have reduced the crest of the average of the last six floods on the Mississippi from 3 to 5 feet and that control of the Red River would have lowered the crest another 1 to 2 feet.[37]

The interstate commission had been in touch with the Corps of Engineers and Blake had presented its proposals to two Chiefs of Engineers, MG Lansing H. Beach and LTG Edgar Jadwin,

[33] Proceedings of the Oklahoma Flood Convention submitted by the Denison Committee delegated to represent the Denison Chamber of Commerce. McBride Papers.

[34] TCC Minutes, 4 Oct, 1, 15, 29 Nov 27.

[35] *House Flood Control Hearings, 1927-28,* pt. 4, pp. 2553-60.

[36] Ibid., pt. 6, pp. 4784-97.

[37] Ibid., pt. 1, pp. 335-60, 571-633, 635-47.

before his testimony to the Flood Control Committee. Several of the members of the Congressional delegations from Oklahoma and other Arkansas and Red River states had voiced their support for the reservoir system to control floods.

When Congress convened and got down to consideration of specific flood control legislation the major issue concerned a choice between the so-called Jadwin Plan and the Mississippi River Commission Plan for the Mississippi River below Cairo, Illinois; the Jadwin Plan with its improved levees, spillways, and floodways won. There was also conflict over how much of the cost should be borne by the Federal Government. These principal issues were of minor importance to Douglas, Blake, and most of the members of Congress from the Arkansas and Red River Basins. They wanted something done about their floods and they recognized the interrelatedness of flood control, irrigation, water supply, and navigation. They worked publicly and privately, on the floor of Congress and in conferences with those in positions of power, until they were satisfied with the provisions of the Jones-Reid Flood Control Act which was approved on 15 May 1928.[38] Section 10 called for the studies authorized in the Act of 21 January 1927 to be "prosecuted as speedily as practicable," and directed the Secretary of War, through the Corps of Engineers, "to prepare and submit to Congress at the earliest practicable date projects for flood control on all tributary streams of the Mississippi River system subject to destructive floods . . . ." The Red River and tributaries and the Arkansas River and tributaries were named specifically. This section further spelled out the requirements for comprehensive, multiple-purpose studies of the streams.[39]

Leaders in the two river basins were pleased with this progress, but at this stage in their experience they did not know how long it would be from this first step to achievement of their goal. Even Sen. Elmer Thomas could not have known.

[38] Ibid., and pt. 4, pp. 2542-50, 2805-08; E. B. Howard to Honorable Ed Overholser, 1 Dec 27; E. E. Blake to Frank Buttram, E. K. Gaylord and Carl Magee, 12 Apr 28; E. E. Blake to Frank Buttram, 3 Mar 28 (letters in McBride Papers); E. B. Howard to GEN Edgar Jadwin, 20 Mar 28 and BG Herbert Deakyne, Acting Chief of Engineers, to E. B. Howard, 23 Mar 28. National Archives (NA), Record Group (RG) 77, Entry 7402 (Arkansas River)-6; *Congressional Record,* 70th Cong., 1st sess., (1927-28), pp. 276-77, 1065-67, 1198-99, 5125-30, 6309-11.

[39] 45 Stat. 569.

## CHAPTER IV

*Make no little plans. They have no magic to stir men's souls.* [1]

In 1928 the Arkansas River Basin was under the jurisdiction of the Memphis District and the Red River Basin under the Vicksburg District, both in the Lower Mississippi Valley Division, Vicksburg, of the Corps of Engineers. These districts would make the studies of the two basins authorized by Congress.

Before either of the studies could be completed, the Mississippi River Commission (MRC) reported a study of progress on the Jadwin Plan. It left the Memphis District Engineer's hands on 10 July 1930, was submitted to Congress on 3 March 1931 after going through channels, and was published as a house document. One purpose of the report was to examine the feasibility of reservoirs on the Arkansas, White, and Red Rivers for flood control on the Mississippi River. Evaluation of the 95 reservoirs in E. E. Blake's Oklahoma System resulted in finding that their aggregate effect would reduce the 1927 Mississippi River flood crest by about 3 inches. Their efficacy for local protection was not denied, and seven of them were included in "the best group of 28 reservoirs" selected for their potential effect upon the level of Mississippi floods. Chosen from 130 potential sites on tributaries of the Arkansas, the 28 would have reduced the 1927 crest by 3.2 feet at an average original cost of about $42,800,000 per foot of stage reduction. This figure was so prohibitively high that it did not warrant serious consideration. A single reservoir on the Arkansas at Little Rock costing $267,000,000 would store 20 percent more than the 1927 Arkansas flow and lower the crest of a flood like that of 1927 by about 6.25 feet, but the cost was unthinkable.[2] Let the Jadwin Plan go on.

Blake and his interstate committee did not provide the only input concerning regulation of floodflow by reservoirs in the 1927-28 hearings. For instance, the Pittsburgh Flood Commission presented its significant findings, and Arthur E. Morgan, knowledgeable concerning the Miami Conservancy District, in a well-reasoned statement for the House Committee on Flood Control, analyzed the controversy between the proponents of levee control and reservoir control of Mississippi floods. He did not claim he could settle the issue, nor did he "know the aggregate possibilities for reservoir control," for "any estimate made without very extensive and thorough-going investigation can be but a guess." Denying that he was an advocate of reservoir control for the Mississippi, Morgan called for "a deliberate and conclusive study."[3] It should be said that both the MRC and a special six-member board of engineers appointed by the Chief of Engineers to advise him in 1927 and 1928 on the feasibility of reservoirs actually endorsed the theory of reservoir control. They simply rejected it because of the economics involved when they compared the cost to other methods.[4]

The Army Engineers, however conservative about new approaches, were as aware as Arthur Morgan of the need for data on which to make sound judgments. Now they had the authorization and funding for sufficient study, but they would find the engineering answers before they did the economic ones.

In Tulsa there was excitement about the approaching investigations. When the earliest surveyors arrived in the field is uncertain, but by January 1929, George Shepherd had a crew from the Memphis District headquartered at Woodward, Oklahoma, surveying on the Canadian and the Cimarron. In November and December of that year three river survey boats were constructed in Tulsa. They totaled 136 feet in length and 16 feet in width with 3½-foot draught and were powered by six 3-

[1] Quotation credited to Charles D. Norton, and used as caption on report of Mississippi Valley Committee of the Public Works Administration, 1 Oct 34. See *Congressional Record,* 74th Cong., 1st sess., (24 Jan 35), pp. 936-38.

[2] US Congress, House, *Control of Floods in the Alluvial Valley of the Lower Mississippi River.* H. Doc. 798, 71st Cong., 3d sess., 1931, 2 vols. II:1365, 1367.

[3] *House Flood Control Hearings, 1927-28,* pt. 6, pp. 5064-76.

[4] *Congressional Record,* 70th Cong., 1st sess., p. 3259.

horsepower motors mainly for steering. Shepherd, whose nearly 47 years with the Corps of Engineers gave him greater longevity of service, upon his retirement in 1970, than any other Tulsa District retiree, was called to Tulsa and given command of a survey crew of 26 who lived in the boats while making a cartographic survey of the river from Tulsa to Little Rock. The Chamber of Commerce planned for a gala ceremony and christening of the boats on 21 December 1929, but communications broke down. The inspector in charge of building the boats received telegraphic orders to release them. He did on 19 December and departed to report to Memphis as ordered. Shepherd was unaware of the arrangements, and for 5 days he and his men waded the river, tugging, pushing, pulling, polling, prying, and using every device they could conceive to take the boats through the sand to Bixby, a few miles downriver from Tulsa, where they tied up the boats. The arrival of a winter storm delayed their going farther. Ice piled up over 20 feet above the boats and when it broke there was water aplenty to float the vessels. They shoved off in the rushing waters and then came the problem of stopping the craft. This was achieved by the men's getting ahead, tying heavy ropes to the narrow wagon bridge across the river at Haskell, and suspending the ropes for crewmen to grab and tie to the boats. Nearly 300 spectators gathered to see the feat; that is, until a frightened observer called out that the boats would pull the bridge down, and a hurried evacuation occurred. But the tactic worked and a new base for operations was established. Throughout the assignment the scarcity of water was more serious than the initial abundance.[5]

In the towns and cities of the Arkansas and Red Rivers and their tributaries and in the rural areas where livestock, crops, buildings, and vital soil had been carried away by floodwaters, there now was a strange combination of despair, uncertainty, hope, resolve, and search for leadership. Tulsa provided a full share of the latter as men's capability grew to equal the challenge. The emphasis here on the Tulsa contribution must not distort its importance as compared to the forces of tremendous strength especially in other Oklahoma cities and in Arkansas. Nor should the assistance of leaders in Kansas, Texas, Louisiana, New Mexico, Colorado, and Missouri be overlooked. A closely printed page could easily be filled with the names of businessmen, farmers, members of Congressional delegations, and other leaders who gave of their time and energy in almost unbelievable measure over the next 40 years. They learned as they went along how important were all to one and one to all, and they did not forget it.

Colonel Douglas continued active, but in December 1930 he was appointed as a special representative of the Inland Waterways Corporation of the War Department, and he worked out of the regional headquarters in Saint Louis. Douglas returned to Oklahoma after resigning this position, in September 1933, and was soon chairman of the Department of Waterways, Power and Flood Control of the State of Oklahoma, of which E. E. Blake was the vice chairman. He also was president of the seven-state organization Blake had led, and he continued to hold offices in the National Congress of Rivers and Harbors and the Mississippi Valley Association.[6] But after 30 years of promoting water development, Douglas faded into the background and Newton R. Graham became the leading spokesman for Arkansas River development.

In the last years of the 1920s, Graham, a Tulsa banker, had become increasingly involved in discussions of the Arkansas River in Chamber of Commerce councils. Born in Pueblo, Colorado, Graham had come to Tulsa in 1907 as an advertising man with a local newspaper. In 1913 he was employed as an account promoter of a new bank and had continued in banking in varying capacities, including the long-time chairmanship of the legislative committee of the Oklahoma Bankers Association. For 26 years after 1912 he served on the city's Park Board and was avidly involved in good causes throughout his life, being chairman of the board of trustees of Tulsa's Hillcrest Medical Center when he died at the age of 73.[7]

In the early 1920s Graham was more interested in improving the quality of cattle in Tulsa's hinterlands than river development, but he was persuaded by E. Fred Johnson, who was his closest

[5] Interv, George Shepherd, 28 Mar 74; *Tulsa World,* 28 Nov, 21 Dec 29; "River Survey was a Chore," Arkansas Waterway Edition, *Tulsa Tribune,* 4 Jun 71.

[6] *Tulsa World,* 17 Dec 30, 3 Aug 33, 1 Dec 33; Clarence B. Douglas to MG Lytle Brown, 5 Sep 33. NA, RG 77, Entry 7249 (Ark. R.).

[7] *Newt Graham 1883-1957* [Privately printed by E. Fred Johnson, n.p., n.d.].

friend through the remainder of his life, to use his energies to promote utilization of the area's water resources. Graham had given Johnson his first banking job upon the latter's return from military service in World War I although Johnson had worked only at physical labor before. In 1925 Johnson was national president of the Junior Chamber of Commerce; in 1932 he was president of the Tulsa Chamber of Commerce; and in 1968, at his death, he was chairman of the board of Tulsa's Fourth National Bank. His faith in Graham's capability was not misplaced. Nor did he ever yield his belief in the importance of water resource development. He was typical of the men in Tulsa who interested themselves in the work of the Corps of Engineers.

Graham moved into the position of leadership in the water program of the Chamber of Commerce as the study authorized in 1928 was underway. Already well known and liked over Oklahoma, his integrity, tireless energy, growing understanding of water problems, and capacity for friendship ingratiated (in the best sense of the word) him into the trust of men both high and low. The Exchange National Bank (predecessor to the National Bank of Tulsa) made his time available unstintingly, and in January 1934, thanks to E. Fred Johnson, A. E. Bradshaw, and Otis McClintock, he was elected president of the Tulsa Clearing House Association. His duties in that position were only nominal, but it gave him an income that made it possible for him to devote almost full time to public service which meant promotion of navigation of the Arkansas. He continued to represent Oklahoma bankers before the Oklahoma Legislature.[8]

Graham's consuming interest in water resource development was navigation, but he saw flood control and bank stabilization as absolutely essential, and this meant he worked as hard for stream control as for navigation. Never a strong public power advocate, he favored power production when inclusion of this feature enhanced the economic feasibility of a project. His interest in irrigation was serious, but eastern Oklahoma did not need it as other areas did. He had the vision to foresee the great importance of recreation at water projects. And he was a strategist who could put all the parts together into a whole. He grew with the challenge as did many of his co-workers.

**Newt Graham**

From the beginning of his involvement, Graham's warm compassionate nature caused him to deplore floods and the accompanying suffering and waste. The solution was first an engineering problem, and Graham did not claim expertise here although his friends said he acquired an uncanny understanding of engineering; but after the engineers figured out what to do, he gave support to achieve it. He yielded superiority to no one in knowledgeability in the area of economic feasibility of navigation. While he and other proponents of navigation might stay out of flood control and engineering problems, they took it upon themselves to develop the economic case for navigation.

On 4 January 1929 MAJ Francis B. Wilby of the Memphis District conducted a public hearing in Tulsa for citizens of Kansas and Oklahoma to ex-

[8] FONECON, C. A. Border, 29 Apr 74; Interv, COL F. J. Wilson, 1 May 74; Bob Foresman, "Lasting Love; Fred and the Fourth," *Tulsa Tribune*, 19 Jun 67; *Tulsa World*, 13 Oct, 27 Nov 68.

press their views on improving the Arkansas and tributaries for flood control and navigation. Graham was still not in the forefront, and the Oklahoma presentation was dominated by Judge E. E. Blake of Oklahoma City and Colonel Douglas. Their emphasis was on navigation. Blake now contended that savings in freight rates would equal an annual return of 10 percent on the projected cost with savings from flood prevention an additional benefit. The Kansas representatives spent their time seeking relief from the destructive floods along the Verdigris and Neosho Rivers. Interestingly, two future Secretaries of War were among the witnesses—Patrick J. Hurley and Harry H. Woodring.[9]

In September 1929 the Arkansas River Association was formed, and the founders twice met in Little Rock that month to make plans to maintain an office in Washington with Colonel Douglas in charge. The Association held its first annual convention in Little Rock on 4 November. Enthusiasm was high.[10] Later in the month, William Holden, executive officer of the Tulsa Chamber of Commerce since 1922, attended the meeting of the Mississippi Valley Association (MVA) in Saint Louis and there made the arrangements by which Oklahoma and Arkansas were admitted to membership in that association. Shortly thereafter the MVA contracted with Theodore Brent of New Orleans to make a tonnage survey of the Arkansas to support the case for navigation. Brent, an eminent expert on transportation, had been a member of the US Shipping Board during World War I. The estimated $15,000 to $20,000 cost of his study would be borne by interested Arkansas River towns, including Tulsa, in Oklahoma and Arkansas.[11]

The forthcoming Brent report on tonnage kept leaders expectant through 1930. A preliminary review of the finding was given at the November annual meeting of the MVA in Saint Louis and the report was in final form in early January 1931. It represented a compilation of considerable relevant information, but without cost figures which only the engineers could supply, the value of Brent's findings was limited. He did estimate that "the improvement of the Arkansas River for 9-foot navigation would give annual savings to the public aggregating $7,309,096.58 on 12,938,797 tons of traffic isolated."[12]

The removal of Colonel Douglas from local activity by his appointment in December 1930 as special representative of the Inland Waterways Corporation cleared the way for the election of Newt Graham as president of the Arkansas River Association at its annual meeting at Fort Smith in February 1931.[13] With the data in the Brent study which he had helped assemble and that which he would henceforth be accumulating, he pressed the case for navigation with the Corps of Engineers which was not easily convinced.

On 29 July 1935 the Secretary of War transmitted to the Speaker of the House of Representatives the Corps of Engineers report of the comprehensive study of the Arkansas River and tributaries which had been in the making since the Flood Control Act of 15 May 1928. Published subsequently as House Document 308, 74th Congress, 1st session, in three volumes and referred to usually as the Arkansas 308 Report, it is the basic document and starting point of investigations. The 308 Report and its backup materials constitute an invaluable source of information on the river basin, the possible methods of controlling its floods and the effect of this control on the Mississippi River, the potential for irrigation and power production, and the engineering techniques by which navigation could be attained to a point near Tulsa. Areas of problem levees and unstable banks were identified as were the possible sites for dams for power production.

The major sites for dams that had been identified to this time were examined, estimates made of construction and related costs, and possible benefits calculated. Three large storage reservoirs—Caddoa on the mainstream in eastern Colorado, Conchas on the South Canadian in New Mexico, and Fort Reno

[9] *Tulsa World,* 5 Jan 29; *Tulsa Tribune,* 5 Jan 29.

[10] *Tulsa Tribune,* 4 Nov 29; *Tulsa World,* 5 Nov 29.

[11] "Steaming Up To Tulsey Town," *Tulsa Spirit,* 27 Nov 29, p. 3; "Steaming Down From Tulsey Town," *Tulsa Spirit* 24 Dec 29, p. 19; "Urge River Projects as Chamber of Commerce Program," *Tulsa Spirit,* 22 Jan 30, p. 21 *(Tulsa Spirit was a TCC publication.);* TCC Minutes, 21 Jan, 25 Feb 30.

[12] Theodore Brent, *A Report on the Arkansas River Waterway for the Mississippi Valley Association* (New Orleans: [The Mississippi Valley Association], January 5, 1931), p. 68.

[13] *Tulsa World,* 26 Feb 31; TCC Minutes, 24 Feb, 3 Mar 31.

on the North Canadian in Oklahoma—were given conditional approval, and small reservoirs at Fort Supply on Wolf Creek and at Optima on the North Canadian (Beaver) River were found feasible for the conservation of water and local flood control. The Great Salt Plains Reservoir on the Salt Fork appeared feasible for flood control and as a wild bird refuge. However, the comprehensive study of the feasibility of reservoir control of floods on the main stem and tributaries resulted in negative findings; their use to control Mississippi River floods was not recommended.

The engineering feasibility of constructing a navigation channel to the vicinity of Tulsa with a system of locks and dams using the lower White, Arkansas, and Verdigris Rivers was established, but its economic feasibility was not. Excluding interest during construction, the initial cost of a 9-foot channel to Catoosa would be $192,000,000. About 7,460,000 tons of freight could be moved annually at a saving in transportation costs of about $10,222,-240 which were compared with annual costs of $18,-712,000.[14] This was not even close to an economic justification ratio.

The date at which Graham and his co-workers knew of the unfavorable result of the study is not known, but possibly he was well informed all along the process. MAJ Brehon Somervell, Memphis District Engineer, started the report on its upward journey on 10 June 1932. Four days later the Division Engineer, BG T. H. Jackson, signed and forwarded it to the Chief of Engineers, who probably routinely submitted it quickly to the Board of Engineers for Rivers and Harbors (BERH), which had been required since its creation by Congress in 1902 to review all such studies. This Board, however, did not return the report to the Chief of Engineers until 2 May 1934.

In the interval between 10 June 1932 and 2 May 1934, MG Lytle Brown and his successor as Chief of Engineers, MG E. M. Markham, had granted permission to Mr. Graham for his representatives to read the report on a confidential basis in the district office. Copies were sent to the Corps office in New Orleans for Theodore Brent to view it there and to the Corps office in Chicago for Robert Isham Randolph and his associates to examine it.[15] Randolph was a partner in one of Chicago's leading engineering firms, and was the director of operations at the Century of Progress Exposition (World's Fair) in Chicago 1932-34. Brent and Randolph were permitted to enter rebuttal pleadings and additional data before the BERH and thereafter accredited spokesmen for the river improvement organizations with which Graham was associated were never denied confidential access to reports in progress.

The local interests, through Oklahoma Reps. Wesley E. Disney and W. W. Hastings, on 19 June 1933 requested of MG Lytle Brown a study of a 6-foot navigation channel in the hope that it might be feasible if the 9-foot one was not.[16] Upon General Brown's instructions this estimate was prepared and submitted to BERH, and action by the Board was delayed until local interests could submit additional data at a public hearing.[17] None of this effort changed the outcome of the study.

Newt Graham was distressed that costs were charged against navigation in the 308 Report which he believed should not have been and that there was a failure to credit certain benefits and tonnage to which he thought the project was entitled, and he argued that the Arkansas had been discriminated against in these respects as compared to the Tennessee and Missouri. Section 6 of the River and Harbor Act enacted on 30 August 1935 (49 Stat. 831) provided that the so-called 308 studies "shall be supplemented by such additional study or investigation as the Chief of Engineers finds necessary to take into account important changes in economic factors as they occur, and additional stream flow records,

[14] H. Doc. 308, 74th Cong., 1st sess., I:3, 7, 144-46.

[15] N. R. Graham to GEN Lytle Brown, 23 Nov 32 and LTC John J. Kingman to N. R. Graham, 29 Nov 32. NA, RG 77, Entry 7249 (Ark. R.)31; BG Lytle Brown to N. R. Graham, 16 Oct 33. NA, RG 77, Entry 7402 (Ark. R.)90; N. R. Graham to GEN Edward M. Markham, 10 Nov 33. NA, RG 77, Entry 7402 (Ark. R) 98; N. R. Graham to GEN Edward M. Markham, 23 Nov 33. NA, RG 77, Entry 7402 (Ark. R.)99; MG E. M. Markham to N. R. Graham, 22 Nov 33. NA, RG 77, Entry 7402 (Ark. R.)98; N. R. Graham to GEN E. M. Markham, 27 Nov 33. NA, RG 77, Entry 7402 (Ark. R.)100; N. R. Graham to MG E. M. Markham, 11 Jul 34. NA, RG 77, Entry 7245 (Ark. R.)41; CPT Lucius D. Clay to N. R. Graham, 20 Jul 34. NA, RG 77, Entry 4245 (Ark. R.)41.

[16] Wesley E. Disney to MG Lytle Brown, 19 Jul 33 and Wesley E. Disney and W. W. Hastings to MG Lytle Brown, 19 Jul 33. NA, RG 77, Entry 7243 (Ark. R.); N. R. Graham to MG Lytle Brown, 9 Oct 33. NA, RG 77, Entry 7249 (Ark. R.)59; MG E. M. Markham to N. R. Graham, 22 Nov 33. NA, RG 77, Entry 7402 (Ark. R.)98.

[17] MG Lytle Brown to Wesley E. Disney, 3 Aug 33. NA, RG 77, Entry 7243 (Ark. R.).

or other factual data." To Graham this provision was an open invitation to argue his position and to present new data at will to the Corps.[18]

On 25 February 1936, Graham spoke to the Board of Directors of the Tulsa Chamber of Commerce about waterway development in the Arkansas Valley, and read excerpts from a brief he had prepared in opposition to the 308 Report. A lively discussion followed and a strongly worded protest resolution was adopted which stated that due to "prejudicial rulings, the U.S. Army Engineers . . . failed to find economic justification . . . which findings, if permitted to stand, may deter Congress from proceeding with the improvement of this all important tributary system for generations to come . . . ." and directed the Waterways Committee through its chairman (Graham) "to take such steps as may be reasonable and necessary to effect changes in said No. 308 Report, and any supplemental reports thereto, eliminating said unusual and unreasonable fiscal charges and including the economic benefits to which the project is entitled, to the end that justification be shown and recommended by the U.S. Army Engineers in their final report to Congress."[19]

In addition to Section 6 of the River and Harbor Act of 1935 noted above, Section 3 authorized and directed the Secretary of War to include the Arkansas River, Arkansas and Oklahoma, among several streams on which he was to cause preliminary examinations and surveys to be made. Responsibility was first assigned to the MRC, but it was transferred to the Southwestern Division (SWD) at Little Rock after its formation in 1937. On 12 October 1937 Sen. Elmer Thomas telegraphed General Markham from Tulsa: " . . . I respectfully request that you order Colonel Reybold at Little Rock to make a new study and report on the Arkansas Valley Basin . . . ." As Memphis District Engineer from 1 May 1935 until his appointment as the first SWD Engineer in 1937, COL Eugene Reybold had become knowledgeable regarding the Arkansas, and he was known, liked, and respected by river development leaders. They would be pleased if now, as the SWD Engineer, he would take charge of the study. On 14 October 1937, the Chief of Engineers ordered the transfer of responsibility Senator Thomas had requested.[20]

In a resolution adopted on 10 February 1938 the Committee on Flood Control of the House of Representatives called for a review of the 308 Report as it related to the Poteau River. Congress in Section 6 of the Flood Control Act of 1936 (49 Stat. 688) had directed preliminary examination and survey for flood control at the Wister, Oologah, and Mannford Reservoir sites considered in the 308 Report. Another Flood Control Committee resolution adopted 10 February 1938 called for further review of the 308 Report recommendation regarding the Poteau River. Findings in these studies were to be combined with the larger study on navigation. Authorization in the Flood Control Act approved 28 June 1938 of the reservoirs at Wister, Oologah, and Mannford and determination by hearing at Poteau, Oklahoma, on 24 August 1939 that the Wister Reservoir would satisfy local interests, eliminated the necessity for extensive investigation of these projects.[21]

Two other resolutions did have the effect of making the investigations more comprehensive. One of these was obtained from the Senate Committee on Commerce on 12 October 1938 by Senator Thomas and the other from the House Committee on Rivers and Harbors by Rep. David D. Terry of Arkansas on 24 January 1939. The former requested BERH to review the 308 Report and subsequent reports on the Arkansas River and tributaries in Oklahoma to determine their hydroelectric power potential, and the latter requested the same review for the stream and its tributaries in Arkansas. The Chief of Engineers directed that the hydroelectric power study be combined with the navigation study.[22]

[18] N. R. Graham to MG E. M. Markham, 13 Jul 34. NA, RG 77, Entry 7245 (Ark. R.)42; N. R. Graham to MG Edward M. Markham, 29 Apr 35. NA, RG 77, Entry 7245 (Ark. R.)66; N. R. Graham to MG E. M. Markham, 18 Mar 36. NA, RG 77, Entry 7245 (Ark. R.)51; MG E. M. Markham to N. R. Graham, 13 Mar 36. NA, RG 77, Entry 7245 (Ark. R.)49.

[19] TCC Minutes, 25 Feb 36.

[20] Telegram, Elmer Thomas to GEN Markham, 12 Oct 37 and BG G. B. Pillsbury to Elmer Thomas, 14 Oct 37. NA, RG 77, Entry 7245 (Ark. R.)63; LTC W. A. Snow to the President, Mississippi River Commission, 14 Oct 37. NA, RG 77, Entry 7245 (Ark. R.)64.

[21] US Congress, House, *Arkansas River and Tributaries Arkansas and Oklahoma.* H. Doc. 758, 79th Cong., 2d sess., 1946, pp. 20-22.

[22] Ibid., p. 20; Roger Williamson to MG Julian L. Schley, 12 Oct 38. NA, RG 77, Entry 7249 (Ark. R.)238; Copy of resolution, Committee on Rivers and Harbors, House of Representatives, 24 Jan 39, J. H. McGann, Clerk. NA, RG 77, Entry 7249 (Ark. R.)257.

SWD proceeded with the preliminary study, sometimes delaying it at the request of Mr. Graham or other spokesmen for the local interests to give them time to prepare data for presentation. The preliminary report was completed and submitted on 30 June 1939. It was reviewed by BERH and on 4 December 1939 the Chief of Engineers authorized a survey.[23] The big decision still lay ahead.

The bitter and gloomy resolutions adopted by the Board of Directors of the Tulsa Chamber of Commerce on 25 February 1936 are hardly consistent with the tone of a report Graham had made to the Board less than 10 months earlier on 13 May 1935. He said then that if any flood control project were allotted funds, as seemed likely, the Corps of Engineers would "establish a departmental headquarters" in the Arkansas Basin. He cautioned that no publicity should be given to it, but he had talked with General Markham about "the availability of Tulsa." General Markham had noted that the office should be located near the center of the work and it was not known which projects would be approved. However, he knew that ultimately many of the projects would be located in the Tulsa area. General Markham had been in Tulsa the week before and called at Graham's office. Graham had the impression that the Engineers were getting ready for early action and he told the Chamber Directors, "This matter must be followed up."[24]

Realization of Graham's vision of an Engineer Office in Tulsa was over 4 years away. He left few tracks as he "followed up," as surely he did. Obviously his acquaintance with the Chief of Engineers was not casual, but a cordial and well established one. It reflected the fact that Graham had been involved in almost everything that had happened in the Arkansas Basin since 1931 that could possibly affect the Corps of Engineers. Although dismayed at times, he was absolutely undeterred by the cold calculations and judgments of the Corps of Engineers.

With the coming of the New Deal in March 1933 and enactment of legislation for public works to provide relief of unemployment, Graham saw the possibility of achieving some purposes of his river development program by this means. In May of 1933 he visited Washington for conferences with Senator Thomas and Representatives Disney and Hastings regarding the means by which projects included in the report of the Army Engineers might be selected for the new national program.[25] On 6 June 1933 the Oklahoma legislature adopted a resolution bringing the matter of improvement of the Arkansas River Basin to the attention of the new President and urging his favorable action upon it. On 17 July a group of Senators and Congressmen from the Arkansas Basin states in a long letter, possibly composed by Graham, petitioned President Roosevelt, under the authority of the National Industrial Recovery Act approved 16 June 1933, to appoint an "Arkansas River Basin Authority" of citizens to analyze the several reports of the Army Engineers concerning the Arkansas River and its tributaries. After an exhaustive study this "Authority" would submit recommendations for further consideration and study. The petitioners said, "We do not ask an authority authorized to let contracts, or even to approve projects, but only empowered and instructed to employ engineers and economists to present and defend projects of the basin they may find justified by public benefit and to also inform the people of the basin regarding these various public works problems, seeking their cooperation."

In response to this request, the Public Works Administration (PWA) appointed an Arkansas Basin Committee (ABC) consisting of seven representatives of the basin states with Newt Graham as chairman. Failing to obtain from the

[23] H. Doc. 758, 79th Cong., 2d sess., 1946, p. 19; N. R. Graham to CPT D. W. Griffiths, 13 Jan 39. NA, RG 77, Entry 7245 (Ark. R.)-70/1; LTC S. L. Scott to the Chief of Engineers, US Army, 23 Jan 39. NA, RG 77, Entry 7245 (Ark. R.)-70.

[24] TCC Minutes, 13 May 35.

[25] "Urge Federal Aid on Arkansas River Work," *Tulsa Spirit*, 24 May 33.

PWA the engineering assistance desired, Graham turned to General Markham and the Corps for help and received it as well as access to the 308 Report.[26] The ABC was not in existence sufficiently long to do the analysis of all parts of the 308 Report that Graham had in mind, but it did make recommendations to the PWA for local protection projects and several reservoirs, particularly the Caddoa, Conchas, Fort Reno, Fort Supply, Optima, and Great Salt Plains projects. Its recommendations to the PWA were related to specific needs to relieve unemployment. For instance, the Committee gave support to the efforts of Congressman Disney for construction of Hulah Dam on the Caney River near Bartlesville where the flood losses in 1927 were estimated at $1 million. Disney wrote in September 1933 that 24,740 of the 99,022 families in his First Oklahoma District were on relief the preceding July.[27] More than a decade later, Graham wondered if the ABC may have influenced General Markham's favorable decisions for those few projects he did find feasible in the 308 Report.[28] Certainly the need for work relief helps to explain the decision to build Conchas Dam in New Mexico.[29]

The ABC made recommendations also to a similar Mississippi Valley Committee (MVC) composed of nine members, including General Markham, whose chairman was Morris L. Cooke, a consulting engineer of Philadelphia. The reports of the MVC and the National Resources Board were transmitted to Congress on 24 January 1935 by President Roosevelt in a special message. The report of the MVC divided Arkansas, White, and Red River Basin projects into class A—"projects which appear to be economically justified by the benefits to be derived from their construction" and class B—"projects which lack immediate justification for construction, but which are of sufficient importance for inclusion in a comprehensive program and the need for which will apparently develop in the future." In class C were the projects which were rejected.

President Roosevelt commented in his message that the reports he was transmitting to Congress "constitute a remarkable foundation for what we hope will be a permanent policy of orderly development in every part of the United States." National resource policy was in process of formation. The valley authority approach to resource development had its adherents, at times in surprising quarters. The Arkansas River Committee of the Tulsa Chamber of Commerce had in June 1934 called upon the President to appoint an Arkansas Basin Authority, albeit more limited than the Tennessee Valley Authority (TVA), and on 10 January 1935 Representative Disney introduced a bill, H.R. 3622, for the establishment of the Arkansas Valley Authority (AVA) with an appropriation of $75,000,000 to execute the program of the ABC.[30] Disney did not press for passage of his bill.

In the summer of 1935 the Mississippi River Commission presented a comprehensive report in which it recommended that "the Federal Government adopt a policy of encouraging and participating in the construction" of a feasible system of tributary reservoirs "which will fit into an ultimate general system for the control of the lower Mississippi River floods." It suggested that a fair dis-

[26] N. R. Graham to MG Lytle Brown, 6 Oct 33. NA, RG 77, Entry 7402 (Ark. R.)90; N. R. Graham to John H. Dunkin, 6 Aug 47 and six-page typewritten incl, "History of the Development of Water Resources of the Arkansas Basin," written by Graham for Dunkin; and cy of ltr to the President, 17 Jul 33, without names of senders, in files of Arkansas Basin Development Association, Tulsa, Oklahoma, (hereafter cited as ABDA Files). Cy of minutes of two mtgs of the Arkansas Basin Committee in Tulsa, 4, 5 Oct 33 and 12 Jan 34. ABDA File; cy of telegram, N. R. Graham to H. M. Waite, 18 Oct 33 and N. R. Graham to H. M. Waite, 23 Oct 33, ABDA Files; BG Lytle Brown to N. R. Graham, 16 Oct 33. NA, RG 77, Entry 7402 (Ark. R.)90; BG Lytle Brown to COL H. M. Waite, 16 Oct 33. NA, RG 77, Entry 7204 (Ark. R.)95; N. R. Graham to GEN Edward M. Markham, 10 Nov 33. NA, RG 77, Entry 7402 (Ark. R.)98; N. R. Graham to MG Edward M. Markham, 20 Dec 33. NA, RG 77, Entry 7402 (Ark. R.)112; N. R. Graham to Elmer Thomas, 9 Nov 33, 15 Nov 33, and 19 Feb 34. Thomas Papers. In addition to Graham, the state representatives on the Arkansas Basin Committee were: Arkansas, Henry H. Tucker; Kansas, E. P. Bradley; Missouri, Peter E. Buness; New Mexico, Arch Hurley; Colorado, Henry C. Vidal; and Texas, A. S. Stinnett. Graham used "committee" and "commission" interchangably in his references to the committee.

[27] Wesley E. Disney to COL H. M. Waite, 27 Sep 33. NA, RG 77, Entry 7402 (Ark. R.)94.

[28] "History of Development of Water Resources of the Arkansas Basin." See footnote 26 above.

[29] *The First Thirty-Six Years: A History of the Albuquerque District 1935-1971* (Albuquerque: US Army Corps of Engineers, [1973]), pp. 8-9.

[30] *Congressional Record,* 74th Cong., 1st sess., pp. 364-65, 936-38 *Report of the Mississippi Valley Committee of the Public Works Administration,* II:193-94.

tribution of costs would be for the United States to pay the cost of construction and the local interests to furnish the land, pay for all incidental damages, and operate the system after completion. It might be justified for the United States to pay a larger share where there was a relatively larger effect on the lower Mississippi River. The unemployment problem might even justify in some cases reimbursing local interests for portions of their costs. A plan calling for 25 specific reservoirs on the tributaries of the Arkansas and Red Rivers was recommended.[31]

In these reports which reached Congress in 1935 giant steps were taken toward nullifying the negative findings of the Arkansas 308 Report regarding tributary reservoirs even before it was submitted to Congress. The problem that Congress faced in 1935 was complicated by the necessity of appropriating billions of dollars for relief including public works programs that provided employment. This year the Works Progress Administration (WPA) was created with emphasis on the immediacy of spending, and those Congressmen who hoped major flood control projects could be financed from these funds were disappointed. The flood control bill with a multitude of projects failed to pass.

When Congress did enact the Flood Control Act of 22 June 1936 the rationale for it was well thought out and stated in Section 1 of the act:

> Section 1. It is hereby recognized that destructive floods upon the rivers of the United States, upsetting orderly processes and causing loss of life and property, including the erosion of lands, and impairing and obstructing navigation, highways, railroads, and other channels of commerce between the States, constitute a menace to national welfare; that it is the sense of Congress that flood control on navigable waters or their tributaries is a proper activity of the Federal Government in cooperation with States, their political sub-divisions, and localities thereof; that investigations and improvements of rivers and other waterways, including watersheds thereof, for flood-control purposes are in the interest of the general welfare; that the Federal Government should improve or participate in the improvement of nagivable waters or their tributaries, including watersheds thereof, for flood-control purposes if the benefits to whomsoever they may accrue are in excess of the estimated costs, and if the lives and social security of people are otherwise adversely affected.[32]

Local interests were required to furnish lands, easements, and rights-of-way for flood control structures, to agree to hold and save the United States free from damages due to the construction works, and to maintain and operate the works after completion.

Construction of dams and reservoirs was authorized on the Arkansas at Caddoa in southeastern Colorado, Optima on the Beaver River in the Oklahoma Panhandle, Fort Supply on Wolf Creek near the eastern end of the Panhandle, Great Salt Plains on the Salt Fork of the Arkansas near Cherokee in Oklahoma, Hulah on the Caney near Bartlesville in Oklahoma, and Conchas on the South Canadian in New Mexico. Several levee, bank control, and channel clearing projects in Kansas, Oklahoma, and Arkansas were also authorized.[33]

In early 1937 the flood of record on the Ohio River occurred and added a new urgency to flood control in the Mississippi Basin. The House Committee on Flood Control, in a resolution of 10 February 1937, called for a comprehensive flood control plan for the Ohio and lower Mississippi Rivers. The response came in a report of the Chief of Engineers dated 6 April 1937 which, after noting that six reservoirs had been authorized in the upper part of the Arkansas River Basin, recommended seven additional reservoirs in that basin for the effect they would have in reducing the flood discharge of the Arkansas into the Mississippi.[34]

This comprehensive plan for the Arkansas River Basin was approved by the Flood Control Act of 28 June 1938 "with such modifications thereof as in the discretion of the Secretary of War and Chief of Engineers may be advisable." Selection of reservoirs was the prerogative of the Chief of Engineers "subject to the provision that the authorization shall include the Canton Reservoir on the North Canadian River in Oklahoma." The Chief of Engineers designated, in addition to Canton, the following reservoirs: Mannford on the Cimarron, Oologah on the Verdigris, Tenkiller Ferry on the Illinois, and

[31] US Congress, House, *Comprehensive Report on Reservoirs in Mississippi River Basin.* H. Doc. 259, 74th Cong., 1st sess., 1935, pp. 1-12, 33, 48.

[32] 49 Stat. 1570.

[33] Ibid.

[34] US Congress, House, Committee on Flood Control, *Comprehensive Flood-Control for Ohio and Lower Mississippi Rivers.* Com. Doc. 1, 75th Cong., 1st sess., 1937, pp. 7-9.

Wister on the Poteau in Oklahoma; Blue Mountain on the Petit Jean, and Nimrod on the Fourche Le Fave in Arkansas. The Act authorized the sum of $21,000,000 for reservoirs and for the initiation and partial accomplishment of the plan. The 1938 Act provided also that the Federal Government would bear the cost of acquiring lands, easements, and rights-of-way, and local interests were relieved of the responsibility of maintenance and operation after construction.[35] Few states could meet the financial requirements of the Act of 1936.

Earlier it was noted that the preliminary study upon which the Chief of Engineers based its authorization on 4 December 1939 of the survey to determine the feasibility of navigation and of hydroelectric power development of the Arkansas River and its tributaries had been made with the cooperation of Newt Graham and other leaders of the Arkansas Basin. The time Graham had devoted to seeing that the Corps had adequate information on potential traffic did not prevent his giving attention to developments that led to the authorizations just discussed. He shuttled between Tulsa and Washington, Saint Louis, Little Rock, Fort Smith, and Muskogee as activities required to promote the cause. He was a leading participant in a meeting in Little Rock on 12, 13 February 1937 of the Arkansas Valley Association, now the leading promotional organization whose name was changed at this meeting to Southwest Valleys Association. Resolutions were adopted supporting legislation that would appropriate adequate funds for immediate construction of reservoirs and control projects approved in 1936, enlarge the program of flood control construction by approval of other projects which are found by Congress to be feasible and economically justified, and provide for further surveys and studies by the Army Engineers to determine other worthy projects to be authorized and carried to completion. The entire cost of these and future projects should be borne by the Federal Government.

Confidence was expressed in the national water conservation policies recommended by President Franklin D. Roosevelt, but more significantly in the day when valley authorities were being urged upon Congress, these river improvement advocates at Little Rock took their stand for the Corps of Engineers by resolving "that the proper and best qualified agency to survey, make plans for, let contracts for, supervise the construction of, and maintain flood control and navigation projects is the Corps of the United States Engineers . . . with the cooperation of the National Resources Board and all other U.S. Government Conservation agencies."[36]

Keeping the support of local interests was as challenging to Graham and his friends as getting action from Congress and the Corps of Engineers. His frequent speeches helped, and he picked up allies. One of these was John Dunkin, Tulsa merchant. On a Friday evening in mid-January 1938, 125 businessmen were guests of Dunkin at the Southern Hills Country Club in Tulsa at a dinner ostensibly to honor John Rogers upon his assuming the presidency of the Tulsa Chamber of Commerce for the year. But Dunkin had another purpose that soon became evident. The principal speaker was Newt Graham who extolled the benefits of river navigation that would accrue to the whole region and to Tulsa. His emphasis was upon the importance of economical transportation to business growth and the great handicap under which the area tributary to Tulsa found itself due to freight rates derived without water competition. To illustrate, he said steel fabricated in Chicago was being shipped all the way to Houston for 51 cents per 100 pounds whereas the charge for the shorter distance to Tulsa was 69 cents per 100 pounds. (Illustrations of this kind, and there seemed to be no dearth of them, would be used countless times to argue for navigation.) He disassociated the river project from New Deal ideology by calling Calvin Coolidge river development's greatest friend, and he frightened his listeners with the word that in 1938 there would be 9-foot barge channels on the Mississippi to Minneapolis, the Ohio to Pittsburgh, the Missouri to Omaha, and the Tennessee to Knoxville. Graham told the story of the Arkansas, Tulsa's greatest undeveloped resource, so effectively that William P. Steven, managing editor of the *Tulsa Tribune,* wrote: "He hammered home arguments with such economic sense that men who admitted laughing about 'paving' the Arkansas came away with the determination that Tulsa must navigate the river . . . ."

John Dunkin admitted that he had been a doubter, but a trip to the Tennessee Valley, to Kan-

[35] *Annual Report of Chief, 1938,* pt. 1, pp. 8-9.

[36] Copy of resolution passed by convention held in Little Rock 12-13 Feb 37. NA, RG 77, Entry 7402 (Ark. R.)321/1; TCC Minutes, 9, 16 Feb 37.

sas City, and to Minneapolis had "made positive his belief that Tulsa must 'get on the water' as quickly as possible." But he wanted others to see for themselves and he called for the Chamber to sponsor a tour of businessmen to various river improvements already completed and in operation. A committee was authorized to begin the arrangements for the tour.[37] A large contingent of leaders from Tulsa and other Oklahoma towns made a very successful tour of the Tennessee and Ohio River developments in late April, and they came back with their enthusiasm bouyed up. J. Hadon Alldredge, economist and director of commerce for the TVA who was judged the best informed and most effective speaker the group heard, was invited to come to Oklahoma to address the Southwest Valleys Association in annual meeting at Muskogee on 12 May and a meeting of leaders of Tulsa and eastern Oklahoma on the night of 13 May. In Tulsa over 300 people heard him explain freight rates and their relation to water transportation and tell Oklahomans that they were in the area of the country that had the highest of all freight rates.[38]

Newt Graham was elected president of the Southwest Valleys Association at Muskogee. It would be one of his vehicles of operation for a time. Things were going well for his objectives. He knew that every flood control reservoir and every bank and channel improvement completed contributed to his ultimate goal, for they helped to bring the river under the necessary control without being charged against navigation. He understood too that with each of these projects came friends and supporters of navigation, and he would keep working for more authorizations, especially in Kansas.

After the authorizations of 1938, sufficient activities for the Corps in the upper Arkansas Valley were in the offing to necessitate some organizational changes, for the District Office in Little Rock was a long way off. Establishment of suboffices nearer to projects or a realignment of districts was expected. Undoubtedly this matter was one of the things considered when the Chief of Engineers, MG Julian Schley, made what was termed the first "official" visit ever of a Chief of Engineers to the area. Accompanied by SWD Engineer, COL Eugene Reybold, and the Little Rock District Engineer, LTC Stanley L. Scott, Schley spent a week during October visiting the sites of authorized projects in Oklahoma. The party was escorted by CPT H. A. Montgomery who had traveled the entire itinerary by auto in advance of the visit. Also in the party was a surveyor, George Shepherd, who knew the area. And the local citizen who was with them most of the time was Newt Graham. Afterward he described what they saw, but his only significant pronouncement was that the Army has gone as far as it can in its surveys until Congress supplies additional funds.[39]

The efforts of more than 3 years to secure a district office for Tulsa soon came to a head. In January 1939 Senator Thomas and Colonel Reybold had let the leaders of the Chamber of Commerce know in strict confidence that they expected to be able to open a Tulsa office in July. On 21 March, the Board of Directors was told in confidence by Russell Rhodes, Executive Officer of the Chamber since 1934, that Graham had been to Washington in an endeavor to obtain the office for Tulsa and that it was believed Colonel Reybold favored Tulsa over other possible cities. The *Tulsa Tribune* on 8 May and the *Tulsa World* on 9 May carried stories, released by Reybold, announcing the opening of a Tulsa office on 1 July. Logic favored Tulsa over possible competitors, but the close friendship between Graham and Reybold did the city's cause no harm. In 1946 Graham said publicly that this action of Colonel Reybold "further personally bound" him to a program of cooperation with the Army Engineers, and Graham claimed Reybold had said to him, "Newt, I'm locating this office in Tulsa because of the effective help your group has given us; . . ."[40]

General Orders No. 3, issued by order of the Chief of Engineers by authority of the Secretary of War on 4 May 1939 and effective 1 July 1939 established the Tulsa District, but General Orders No.

[37] *Tulsa Tribune,* 15 Jan 38; *Tulsa World,* 15 Jan 38; "Navigation Boosted!" *Tulsa Spirit,* 20 Jan 38.

[38] TCC Minutes, 1 Feb, 15 Feb, 1 Mar, 15 Mar, 29 Mar, 19 Apr, 26 Apr, 3 May, 10 May 38; "River Tour Reservations Open This Week as Plans Developed," *Tulsc Spirit,* 17 Mar 38; "Tour Over and Real Work Begins," *Tulsa Spirit,* 5 May 38; *Tulsa Tribune,* 11, 12, 13 May 38; *Tulsa World,* 10, 12, 13 May 38.

[39] TCC Minutes, 18 Oct 38; *Tulsa Tribune,* 19 Oct 38; Interv, George Shepherd 28 Mar 74.

[40] "Address Given by N. R. Graham at Organization Meeting Arkansas Basin Development Association," 13 Feb 46. ABDA Files.

4 of 17 May 1939 amended the original orders to provide a clearer definition of boundaries. Despite all the years of preparation and anticipation, flood control construction had barely begun, authorization of the navigation system was 7 years off, and funding that really committed the Government to going through with it was more than 15 years away. Yet it is doubtful that the proponents would have turned back, even had this been known.

## CHAPTER V

*This program must not die in the vine.*
*You can never stand still in development*
*of natural resources.* [1]

The history of the Tulsa District of the Corps of Engineers does not divide automatically into parts for the convenience of the historian, but there is logic in treating the civil works activities from 1 July 1939 to the end of July 1946 as a unit despite the fact that through much of that period the District's principal attention had to be given to military construction. Outbreak of war in Europe in September 1939 when the District was barely 2 months old, the growing defense preparations of the United States, and the Nation's official involvement after the Japanese attack on Pearl Harbor in December 1941, determined that. In April 1945 the Denison District was merged with the Tulsa District, and the story of its creation and civil works will be told separately. The combining of the two districts increased tremendously the peacetime military construction responsibility of the Tulsa District. An account of the military mission of the two districts during World War II and of the Tulsa District from 1945 to 1961 will constitute another chapter.

So many things happen at one time that, after omitting temporarily the Denison District story and military construction, even further division is desirable in this 1939-1946 time period. The immediate chapter will deal with construction of civil works projects, the building of Pensacola Dam by the Grand River Dam Authority (GRDA) as it relates to the Corps, and the investigating and planning for future construction. Following it a chapter will consider the restudy of the 308 Report, local interest participation, and the authorization of the navigation system.

Requirements of the war minimized civil works construction, but planning ranging from preliminary investigations to finalized construction specifications continued despite the war. Promotion of authorizations and appropriations by the local interests was unabated. Together the investigations and support from leaders of the citizenry paved the way for the significant authorizations of July 1946. By this time the Tulsa District was a mature and experienced organization with a distinctive record of wartime achievement.

The first District Engineer, CPT H. A. Montgomery, had been administrative assistant to the SWD Engineer, COL Eugene Reybold, and his experience had given him an understanding of the problems of the Arkansas Basin. When Montgomery ended his service at Tulsa on 18 October 1942 to direct highway construction in Alaska he bore the rank of colonel. Colonel Montgomery's executive officer, LTC Bruce D. Rindlaub, filled in as District Engineer (DE) until 5 December 1942 when COL Francis J. Wilson arrived. The impact of Colonel Wilson, who continued as DE until 8 April 1946, upon the District's history, both during this official tenure and since, has been extraordinary. Wilson's successor, COL C. H. Chorpening, was the first of several Tulsa DE's who later attained rank of general officer.

Initially the Tulsa District had 278 employees.[2] Many of these were Little Rock District field employees who had been working in the area that became the Tulsa District and who elected to continue there instead of returning to the Little Rock District; others were from the Little Rock office; and some were recruited from other districts. For instance, Captain Montgomery had interviewed Donovan P. Grosshans in Pittsburgh;[3] he had arranged for transfer of Henry K. Shane from Kansas City, Missouri, while Shane was on leave for surgery;[4] and he had personally recruited Charles R.

[1] Statement from taik by COL Francis J. Wilson to combined service clubs of Denison, Texas, on 5 Apr 45. *Denison Herald*, 6 Apr 45.

[2] [Howard A. Parker], "History of Tulsa District," p. 5. This history of the Tulsa District was compiled in 1947-48 by an employee, Howard A. Parker, as he approached retirement. It is not narrative in form, but is a huge compilation of significant and insignificant data which have been of real assistance. Several typed copies exist.

[3] Interv, Donovan P. Grosshans, 16 May 74.

[4] Interv, Henry K. Shane, 14 May 74.

**COL H. A. Montgomery**

**LTC Bruce D. Rindlaub**

Flanery in Binghamton, New York.[5] The first two arrived in Tulsa on 15 June and Flanery on 19 June 1939 to assist in setting up the Tulsa office. Shane and Grosshans were responsible for employment of many engineers, some of whom they had known elsewhere in the Corps, in the early years. The first Tulsa offices were in a few rooms of the Petroleum Building where crates, boxes, nail kegs, and the like served temporarily as furniture.

The number of District employees grew as the workload increased, and here it should be noted that throughout this study statistics on the number of employees may be misleading. At any given time a varying portion of the regular functions of the Corps will be performed under contract by non-employees. And often there are temporary employees who are included when an announcement of the number of employees is released. The long-range workload then may be more or less than the number of employees indicates.

Two dams under construction became the immediate responsibility of the Tulsa District upon its establishment. Great Salt Plains Dam on the Salt Fork of the Arkansas River, 19 percent complete at the end of fiscal year (FY) 1939, was substantially complete at the end of FY 41. Construction of permanent buildings, final land acquisition and relocations, floodlighting, and landscaping remained to be finished. By that time, it had cost over $4,000,000 of its total cost of $4,600,000. Of this, $24,743.59 had come from Emergency Relief funds which initiated the project.[6]

Fort Supply Dam on Wolf Creek, a tributary of the North Canadian River, was 32 percent complete at the end of FY 39. Emergency Relief funds amounting to $87,037.71 had made possible its initiation. At the end of FY 42 it was essentially complete and in full operation for flood control. To that time it had cost about $7,000,000.[7]

[5] Interv, Charles R. Flanery, 6 Jun 73.

[6] *Annual Report of Chief, 1939,* pt. 1, vol. 1:1087-89; *1941,* pt. 1, vol. 1:1085-88.

[7] Ibid., *1939,* pt. 1, vol. 1:1083-85; *1942,* pt. 1, vol. 1:970-72.

In addition to these two dams a third one, much larger than Fort Supply and Great Salt Plains combined and involving power production, was under construction when the Tulsa District was formed. This was Pensacola Dam on the Grand (Neosho) River 77 miles above its mouth, and the builder was the GRDA which had been authorized by the Oklahoma Legislature on 26 April 1935 to develop hydroelectric power on the Grand River.[8]

Men had dreamed of harnessing the Grand (Neosho) River at the Pensacola site for production of power since the early 1890s. Surveys and plans had been made, corporations had been formed, and permits had been granted by the State for appropriation of the waterflow of the Grand at that point. None of the ventures had succeeded.[9] The 308 Report considered three sites—Pensacola, Markham Ferry, and Fort Gibson—on the lower Grand for flood control and power production; but, although the Report approved their engineering feasibility, it could not find at that time sufficient benefits from flood prevention or sale of power on the existing market for economic justification.[10] Soon after creation of the Public Works Administration (PWA) in 1933, leaders favoring Pensacola began the moves to interest the PWA in financing construction. Newt Graham was one who gave assistance; and Sen. Elmer Thomas and Rep. Wesley Disney, with the help of the entire Oklahoma delegation, obtained the approval of President Roosevelt and also appropriations from which a grant could be made to an agency of the GRDA type. In 1937 the Oklahoma Legislature repealed a provision enacted in 1935 which prohibited the GRDA from distributing power to consumers. The National Resources Committee reported on social and economic aspects of the project, and did a preliminary analysis of the potential power market. Both were generally favorable. The PWA made a grant of $20,000,000 to the GRDA, of which $11,563,000 (55 percent) was a loan and $8,437,000 (45 percent) a grant, and in early 1938 construction was started.[11]

Meanwhile the Chief of Engineers, on the basis of Section 6 of the River and Harbor Act of 30 August 1935 and Sections 6 and 7 of the Flood Control Act of 22 June 1936, had on 27 September 1937 directed a survey report for dams at the Pensacola, Markham Ferry, and Fort Gibson sites. The Little Rock DE forwarded this report to the SWD Engineer on 29 October 1938, and it was transmitted to Congress on 12 January 1939, and subsequently published as House Document 107, 76th Congress, 1st session. Structures at all three locations were found practicable from an engineering standpoint. All were economically justified for flood control or hydroelectric power, or a combination of both. The DE recommended that the three be constructed at Federal expense for the dual purpose of flood control and waterpower with 960,000 acre-feet of flood control storage at Pensacola, 239,000 acre-feet at Markham Ferry, and 486,000 acre-feet at Fort Gibson. General Schley, Chief of Engineers, added the recommendation that they be operated as one coordinated unit.[12]

The plan for Pensacola considered in the 308 Report had also included 960,000 acre-feet of flood control storage in any dual-purpose lake between elevations 735 and 755. But the PWA drove a hard bargain, by insisting that the upper limit of the power pool be raised from 735 to 745 to guarantee production of sufficient power to repay the loan. In 1940, the GRDA purchased flowage easements to elevation 750, thus giving only 245,000 acre-feet of flood control storage between elevation 745 and 750 when the dam was placed in operation.[13]

Some supporters of the Pensacola project wanted it no matter what the cost in terms of loss of flood prevention. Others did not agree with this philosophy. One of these was Newt Graham. In October 1938 he informed Colonel Reybold that he

[8] W. R. Holway, *A History of the Grand River Dam Authority, State of Oklahoma, 1935-68*, 2 vols. (Tulsa, Oklahoma: Privately Printed, 1968), 1, sec. 2:1-4.

[9] Ibid., 1, sec. 1.

[10] H. Doc. 308, 74th Cong., 1st sess., III:1215-17, 1236-43.

[11] Holway, *History of GRDA*, 1, secs. 2, 3, and 4; typed copy of statement by N. R. Graham to Board of Directors, TCC, 18 May 43. ABDA Files; Elmer Thomas, "40 Years A Legislator," p. 102, (typed manuscript in Thomas Papers); TCC Minutes, 3 Feb 35, 12 Jul 38.

[12] US Congress, House, *Pensacola, Markham Ferry, and Fort Gibson Reservoirs on Grand (Neosho) River, Okla.* H. Doc. 107, 76th Cong., 1st sess., 1939, pp. 2-7, 39-40.

[13] H. Doc. 308, 74th Cong., 1st sess., III:1243; Holway, *History of GRDA*, 1, sec. 6.

had written letters to "Governor Bailey of Arkansas, Senators Carraway and Miller of Arkansas, Mayor Overman of Little Rock, and Mayor Jordan of Fort Smith" to warn of the move to increase the prime power capacity and reduce flood control capacity in order that those with interests in the flood plain could protect them.[14]

The only real consideration of the GRDA project at Pensacola included in the 107 Report is in Colonel Reybold's endorsement dated 22 November 1938 in which he said it was impossible to meet adequately the requirements of either flood control or power by the construction of Pensacola alone. Even the building of the three dual-purpose dams would sacrifice some needed flood control and certainly the capacity allocations at Pensacola should be in accordance with the total plan, not on the basis of a single-project development. Alluding to the interstate nature of the benefits, he argued for the necessity of supervision by the Federal Government of "all storage in and withdrawals from such reservoirs as may be constructed at these sites . . . ." Reybold believed too that "optimum development" involved policy decisions regarding operation and maintenance and distribution and marketing of power that should be made by Congress.[15]

Although counsel for GRDA held the opinion that, because the Grand River was considered a nonnavigable stream, the Federal Power Commission (FPC) had no jurisdiction over the Pensacola project, the GRDA did file with the FPC in December 1937 a "Declaration of Intent" to build Pensacola as required by the Federal Power Act of 1920. After a hearing in Washington on 27 December 1938 there was a year of correspondence, negotiation, conferences, and maneuvering in which the maximum level of the power pool and technical recommendations by the Corps of Engineers were issues. On 27 January 1939 the FPC issued an order of license to the GRDA, but it contained terms that were unacceptable to the Authority, even though it set elevation 745 as the top of the power pool. The GRDA objected to a requirement that it purchase the land and flowage easements for the additional 5 feet of flood pool between elevations 750 and 755 and also clear the land to the top of the flood pool. On 11 July 1939 the GRDA accepted a revised Order of License which provided that the Corps of Engineers could use the 5 feet between levels 750 and 755 after acquiring the necessary flowage easements. The GRDA was required to raise the two railroads in the reservoir area an additional 5 feet. Delay of the license had not postponed construction. It had progressed on schedule.[16]

Pursuant to authority granted in Section 16 of the Federal Power Act of 1920, the President of the United States, professing to believe that the safety of the United States demanded it, by Executive Order 8944 of 19 November 1941, authorized and directed the Federal Works Administrator ". . . to enter upon, and take possession of, manage, and operate, the project . . . for the purpose of generating and supplying power for the manufacture of explosives or munitions of war or otherwise necessary to the safety and defense of the United States, and for other purposes involving the safety of the United States." Executive Order 9373, issued in August 1943 transferred the project to the Department of Interior which had created the Southwestern Power Administration (SPA), effective 1 September 1943, to take over the operation.[17]

Three months before the Government's "seizure" of Pensacola the Congress on 18 August 1941 followed the recommendation of the 107 Report and modified the comprehensive flood control plan to include Pensacola, Markham Ferry, and Fort Gibson. Since the GRDA had already built Pensacola Dam, this legislation had the effect of authorizing the ultimate management of the flood control features there by the Corps of Engineers, and it authorized the Corps to build the Markham Ferry and Fort Gibson projects.[18]

The Act of the Oklahoma Legislature which had created the GRDA in 1935 had empowered it to construct all three of the proposed dams, but it had authorized the issuance of bonds only for the building of Pensacola. In 1939 the Enabling Act was

[14] N. R. Graham to COL E. Reybold, 19 Oct 38; COL E. Reybold to N. R. Graham, 22 Oct 36. Tulsa District records.

[15] H. Doc. 107, 76th Cong., 1st sess., 1939, pp. 40-42.

[16] Holway, *History of GRDA*, 1, sec. 10. The license is dated 26 Jul 39.

[17] Ibid., 1, sec. 12:2-4, 10.

[18] 55 Stat. 638.

amended to provide bond authorization to the GRDA for Markham Ferry and Fort Gibson. Engineers for the GRDA had the year before made reconnaissance and selected a site for the Markham Ferry Dam. Following the new bond authorization, GRDA engineers began preliminary planning for the two dams. These activities were in progress when the Government took over completion and operation of the Pensacola project. In 1942 an alleged shortage of power in the Oklahoma area seems to have motivated President Franklin D. Roosevelt to direct the Federal Works Agency to prepare plans and estimates of cost for constructing Markham Ferry and Fort Gibson.[19] Two agencies of the Federal Government were now at cross purposes.

**Congress voted no funds for construction of the Grand River projects when it authorized them, but the Corps received sufficient planning money for the Chief of Engineers to report later that as of the end of FY 1942 the preparation of detailed plans for** Markham Ferry was approximately 95 percent complete, and special studies of foundation conditions in abutment and flood plain areas were approximately 10 percent complete. The cost of this work was nearly $100,000.[20] The site selected by the Corps was 2½ miles upstream from that chosen by GRDA engineers and would provide more flood control storage.[21] Additional planning was done during each of the next few years, bringing the cost to over $237,000 by the end of FY 46. One allotment of $1,500,000 from the Third Supplemental National Defense Appropriation Act, 1942, approved 17 December 1941, was revoked by the Bureau of the Budget.[22] The fact of war and the controversy over who should build Markham Ferry, the Corps or the Federal Works Agency, prevented any significant progress toward getting it started.

No serious conflict developed over who should build Fort Gibson and the plans at first moved forward rapidly. The Chief of Engineers reported at the end of FY 42 that work had been completed on the preparation of construction plans for the main dam and intake structures, and preliminary work on acquisition of land was in progress. The cost to that date was approximately $388,000. For the next 4 years the preparation of plans and specifications, building of access roads and temporary buildings, and acquisition of right-of-way and other land went on. The total cost of such items came to nearly $2.6 million. In June 1942 it looked as if construction would proceed on schedule, but before the end of the year the War Production Board decreed that this was not to be, and $6,000,000 of alloted funds were placed in budgetary reserve.[23] The strenuous efforts of Tulsa leaders and Sen. Elmer Thomas to obtain clearance for restoration of construction were unavailing until the end of the war was in sight. Planners in the Tulsa District had even revised plans to use a minimum of critically needed materials. When the wartime restrictions were lifted, the project was ready to go.[24]

Canton Dam on the North Canadian River about 100 miles northwest of Oklahoma City was the one Oklahoma dam specifically named in the authorizations contained in the Flood Control Act of 1938. The Chief of Engineers had discretionary power about naming others, but not Canton. Canton was recommended as a substitute for the Fort Reno Reservoir in the review report which was published as House Document 569, 75th Congress, 3d session. The Little Rock District had initiated studies in preparation of a definite project report and all this work was transferred to the Tulsa District. This report was submitted to the Chief of Engineers on 15 March 1940. After the letting of the first construction contract, construction began on 28 December 1940, and continued full swing until it was suspended by an order of the War Production Board on 20 September 1942. Some engineering studies and design work, as well as land acquisition, continued, but construction was not renewed until March 1946 after the Deficiency Appropriation Act of 28 December 1945 made funds available.[25]

[19] Holway, *History of GRDA*, 2, sec. 15:1-5.

[20] *Annual Report of Chief, 1942*, pt. 1, vol. 1:982-83.

[21] Holway, *History of GRDA*, 2, sec. 15:3.

[22] *Annual Report of Chief, 1942*, pt. 1, vol. 1:982-85; *1946*, pt. 1, vol. 1:1312-14.

[23] Ibid., *1942*, pt. 1, vol. 1:983-85; *1946*, pt. 1, vol. 1:1314-16.

[24] TCC Minutes, 29 Jun, 13 Jul 43; *Tulsa Spirit*, 24 Jun 43; Interv, Donovan P. Grosshans, 16 May 74.

[25] Tulsa District, Corps of Engineers, War Department, *General Information, Canton Dam and Reservoir, North Canadian River, Oklahoma*, Revised September 1947, pp. 1-2.

Works Progress Administration (WPA) funds had been spent during the 1930s to improve the Arkansas River levees in the Tulsa area, but much remained to be done to protect the city and also lands along the right bank, generally referred to as West Tulsa. Improvement of the Tulsa-West Tulsa levees was authorized by the Flood Control Act of 18 August 1941 in accordance with proposals in a report published as House Document 157, 77th Congress, 1st session. Wartime restrictions prevented construction before FY 44, but a large part of the planning and preparation of specifications was completed by the end of FY 43. In FY 44 and FY 45 most of the construction was done, and by the end of the latter fiscal year the project was essentially complete with the exception of a railroad bridge alteration. By the end of June 1946 the Federal portion of the cost amounted to approximately $2,774,000. The fact that the levees protected a large industrial area, strategically important to the war effort, explains in part the release of funds for this work.[26]

The Tulsa-West Tulsa local protection, or levee project, and the Great Salt Plains and Fort Supply Dams were the only construction projects that were substantially complete by 30 June 1946. Some work had been done on the Canton and Fort Gibson Dams, and after stoppage due to the war, construction was now being renewed.

By the end of FY 46 work done in the combined Denison and Tulsa Districts, but mainly in the Tulsa District, of a rescue and emergency flood control nature under authorization of the Flood Control Act of 18 August 1941, had cost over $234,000. Besides rescue, this work consisted of repair or maintenance of flood control works threatened or destroyed by flood. Similar work in the combined districts under authorizations of laws enacted in 1943, 1944, and 1945 had cost approximately $837,000. Most of this was levee repair.[27] Emergency bank protection work, authorized by the Flood Control Act of 1944, had been done in the area of Braden Bend on the Arkansas River in Oklahoma about 12 miles southwest of Fort Smith, Arkansas.[28]

Mention has been made of planning for Markham Ferry Dam and it has been noted that most of the planning, design, and preparation of specifications for the Fort Gibson project were complete by the time funds were released for construction after the war. This was true of Canton also. The preparation of plans and specifications for Hulah Dam on the Caney River about 15 miles northwest of Bartlesville, Oklahoma, whose citizens had sought it for more than a dozen years, was well enough along that there was no delay in construction once it was started in 1946.

The Flood Control Act of 18 August 1941 which authorized the Pensacola, Markham Ferry, and Fort Gibson projects extended the comprehensive flood control plan for the Arkansas River Basin to include the Grand (Neosho) River Basin in Oklahoma and Missouri and the Verdigris River Basin in Kansas. In Kansas, dams were authorized near Toronto and Neodesha on the Verdigris, near Elk City on the Elk River, and on the Fall River near the small town of that name.

To 30 June 1946 the dams included in the authorizations of 28 June 1938 and 18 August 1941 constituted the general comprehensive plan of flood control for the Arkansas River Basin as defined in the *Annual Report of the Chief of Engineers for 1946*. Dams authorized in 1936 (Fort Supply, Great Salt Plains, Hulah, and Optima) were not considered as being in the comprehensive plan. In summarizing the status of the 11 dams in the Tulsa District (Canton, Mannford, Oologah, Tenkiller Ferry, Wister, Markham Ferry, Fort Gibson, Toronto, Fall River, Elk City, and Neodosha) which were included, the *Annual Report* said they were approximately 7 percent complete.[29] Only in 1942 and 1943 had the planning functions really suffered as a result of military construction. Local interests had acted to obtain appropriations that made possible this progress.

[26] *Annual Report of Chief, 1941*, pt. 1, vol. 1:1089-90; *1942*, pt. 1, vol. 1:979-80; *1943*, pt. 1, vol. 1:891-93; *1944*, pt. 1, vol. 1:894-96; *1945*, pt. 1, vol. 1:1187-89; *1946*, pt. 1, vol. 1:1283-85.

[27] Ibid., *1946*, pt. 1, vol. 1:1331-33.

[28] Ibid., pp. 1333-34.

[29] Ibid., p. 1322-23.

## CHAPTER VI

*Having drilled this hole to the top of the deep formation, is Tulsa willing to bring in the well?* [1]

Newt Graham was always in the forefront of the local interest forces, but by 1938 he had gained a partner—Don McBride—who would outlive Graham and see their dream of navigation on the Arkansas become a reality. McBride, an engineer, was employed by the Oklahoma Conservation Commission in 1935, and Gov. E. W. Marland in early 1939 made him the Director of the Division of Water Resources of the Oklahoma Planning and Resources Board which had undergone reorganization during the Marland administration. Robert S. Kerr, elected Governor of Oklahoma in 1942, elevated McBride to the chairmanship of the Planning and Resources Board and named Graham a member. McBride and Graham had become a team long before they were brought together on the board. Both were convinced of the importance of water resource development; both were idea men—visionaries, if you like. Graham had experience in formulating and implementing strategy, and McBride had the technical knowledge of a competent professional engineer. In 1943 Governor Kerr joined their team, bringing to it a long-time interest in water problems, and as time would show an unexcelled capacity for political and legislative leadership. They worked closely with Senator Thomas. Kerr has written:

> Whenever a new president or governor took office, Newt called on him and appealed for support of the Arkansas program. That was how I came under the influence and tutelage of this remarkable man after 1942.
>
> Newt and I formed a close working relationship, partly through our mutual friend and associate, Don McBride. When I became Governor the able and experienced McBride already had served through two state administrations and in his official capacity had become an active ally and co-worker with Graham. McBride, a member of my official family and man in whom I had the highest confidence, was instrumental in bringing me together with Newt. The three of us thus developed our unofficial "strategy board" which functioned until the time of Graham's death.[2]

Kerr has described Graham's first meeting with COL Francis J. Wilson who arrived in Tulsa in 1942 to be District Engineer when the restudy of navigation was at a critical stage:

> Graham's anxiety was illustrated by the fact that he arrived at the office just ten minutes after the new occupant . . . . Only three years before, Graham almost single-handedly had won the new District Office for Tulsa, in the interest of Arkansas navigation, and now the fate of his beloved river was in the hands of the man he was about to meet. Newt, the soul of mild persistence, the self-taught "amateur engineer," stuck out his hand to the brown-haired, brisk younger officer, with the silver eagle on his shoulder and the West Point honors in his background. "Colonel Wilson," he volunteered, "I'm sure glad you are going to be here to help us get navigation for the Arkansas."
>
> Unthinkingly, the Colonel gave him the brush-off. Preoccupied with the war and an impending overseas assignment, he casually remarked that he hardly saw how barges could come up the Arkansas. It was a bleak and dry December day, and the old river, just a few blocks away, was running about as low as Newt's spirits at that very moment. Newt, however, put up a good front for navigation. His kindly words and patient manner belied the ache and anguish in his heart. "Colonel," he responded earnestly, "all I ask is that you don't make up your mind until you have studied the problem."[3]

More than 30 years have gone by, and Colonel Wilson remembers the exact words of that last sentence.[4]

To make the survey authorized by the Chief of Engineers on 4 December 1939, and which local interest leaders thought of as a restudy of the 308 Report, the SWD Engineer had appointed the Arkansas River Survey Board which consisted of the Little Rock DE, the Tulsa DE, and a representative of SWD at the time it made its report. Membership changes were frequent, and when the report was finished, Colonel Wilson signed it on 31 December 1943 as the senior member of the survey board. The Little Rock District had primary responsibility, but the Vicksburg and Tulsa Districts made significant contributions to the study. It

[1] "Address Given by N. R. Graham at Organization Meeting Arkansas Basin Development Association," 13 Feb 46. ABDA Files.

[2] Kerr, *Land, Wood and Water,* pp. 174-76; Don McBride, in tape recorded statement to Wm. A. Settle, Jr., 7 Mar 74 (hereafter cited as McBride Tape).

[3] Kerr, *Land, Wood and Water,* pp. 179-80.

[4] Interv, COL Francis J. Wilson, 1 May 74.

was a major activity of the Tulsa District from early 1940 until the writing of the report was completed in late 1943 with as many as 300 members of the Tulsa District staff at times reportedly involved in the study.[5]

The thesis that there is a close relation between the occurrence of floods and growth of support for flood control and other river improvements is easily documented. Progress follows disaster. Two floods on the Arkansas, in 1941 and 1943 while the restudy was in progress, united forces to work for the projects in that river basin as nothing to this time had, but the results were not immediately apparent due to the restrictions required by the war.

October 1941 was the wettest month of record in Oklahoma's climatological history. Rains during the first 10 days of the month saturated the soil and brought the streams to high stages. Then three separate storms brought the flooding between 14 and 31 October during which rainfall over Oklahoma averaged 9 inches. Only the floods of 1833 and 1943 exceeded the 1941 flood in the reach between Muskogee and Fort Smith. The crest at Muskogee in 1941 where flood stage was 26.0 was 36.8 feet and peak discharge of 304,000 cubic feet per second (c.f.s.) compared to a capacity of 150,000 c.f.s. at 26.0. At Webbers Falls the crest exceeded flood stage of 23.0 by 12.8 feet, and at Fort Smith it was 37.3 feet with a peak discharge of 485,000 c.f.s. At this Arkansas city flood stage was 22.0 and discharge capacity at that stage was 150,000 c.f.s. Due to small runoff of the tributaries in Arkansas, the flood was reduced downstream from Fort Smith, and at Little Rock the crest was 26.3 feet, only slightly above flood stage of 24.5, and the peak discharge 404,000 c.f.s.

In 1943 two storms, 7-11 May and 13-20 May, resulted in the highest known rises on the river between Muskogee and a place a short distance upstream from Morrilton, Arkansas. The first of these May storms covered eastern Oklahoma, southeastern Kansas, southwestern Missouri, and western Arkansas with the greatest rainfall centers of 20 and 24 inches in the vicinity of McAlester and Muskogee, Oklahoma, respectively. The second storm centered over northeastern Oklahoma, southeastern Kansas, and southwestern Missouri. At Joplin, Missouri, 16.41 inches of rain were recorded and 20 inches occurred south of Tulsa. During the first storm there was only minor flooding on the Arkansas above the mouth of the Verdigris, but the large flows from the Verdigris and the Grand (Neosho) produced a discharge of 340,000 c.f.s. and a stage of 38.3 at Muskogee, exceeding the former record crest there by 1.5 feet. The huge inflows from the Illinois, Canadian, and Poteau Rivers brought the crest at Fort Smith to 41.7 feet, or 3.3 feet above that of the highest previously known flood, the historic one of 1833. The discharge there was 850,000 c.f.s.

In the 13-20 May storm Muskogee fared even worse as the waters of the Arkansas were joined by those from the Verdigris and Grand (Neosho) to create a peak of 48.2 feet and a flow of 700,000 c.f.s. Fort Smith was not hit so hard as in the first rise, the crest being approximately 3 feet lower and the discharge only 752,000 c.f.s. But the size of the flood did not diminish below Fort Smith in either of these May rises as it had in the 1941 flood. At Dardanelle where flood stage was 27.0 the two May 1943 crests were 33.8 and 34.0 feet with over 680,000 c.f.s. flow; at Little Rock the crests were 28.4 and 30.0 feet and the discharges were 484,000 and 536,000 c.f.s.; and at Pine Bluff the discharges were approximately the same as at Little Rock and the crests were 32.8 and 33.8 feet. The crest of the second rise came dangerously near to coinciding with a major rise on the Mississippi as it entered that stream.[6]

Estimates of the damage vary with some going as high as $50 million, but a spokesman for the Corps of Engineers said in 1946 that the total damages were estimated at $31,130,300, including $19,341,300 along the main stem, and that a total of 26 lives were lost. The flood inundated 1,448,400 acres of land, of which 636,300 acres were along the main stem.[7] The human factor makes it impossible ever to state in dollars the true extent of damages from a natural disaster of this sort; there are

[5] Ibid.; TCC Minutes, 15 Oct 40; Interv, Donovan P. Grosshans, 16 May 74; Interv, Myron DeGeer, 23 Mar 73.

[6] Statistical information regarding 1941 and 1943 floods is from H. Doc. 758, 79th Cong., 2d sess., 1947, pp. 26-40, and from data compiled for writer by Edward E. Hudson of the Hydraulics Branch.

[7] US Congress, House, Committee on Rivers and Harbors, *The Improvement of the Arkansas River and Tributaries, Arkansas and Oklahoma,* Hearings before the House Committee on Rivers and Harbors, 79th Cong., 2d sess., 8-9 May 46, p. 3 (hereafter cited as *House Rivers and Harbors Hearings, 8-9 May 46).*

COL F. J. Wilson

Don McBride

intangibles of physical and mental suffering, for instance, not subject to objective measurement. The very rapidity with which the rises occurred caught hundreds unaware, and they were lucky to escape with their lives, leaving behind cherished possessions and livestock that would perish. One has only to read the newspaper accounts or a graphic description like that contained in Robert S. Kerr's *Land, Wood and Water* to understand how terrible an experience the flood was for thousands of people. They learned even more of the vagaries of the weather when the fruits of their second plantings of crops and gardens withered and died that fall in one of the worst droughts they had ever known.

"Flood of Conviction" is the title of the chapter in *Land, Wood and Water* in which Kerr discusses the flood, and sometimes it is called the "Flood of Conversion." In a memorandum written and delivered to the Governor's mansion late at night, Don McBride alerted Kerr to the seriousness of the flood and the need for drastic action immediately. By eight o'clock the next morning the two were in conference planning the steps to be taken, and the Governor was soon on the scene seeing for himself the nature of the problem.[8] Colonel Wilson requisitioned a Corps of Engineers plane from Denver and took Kerr on a 2-hour flight over the devastated area. From the moment the flight ended Kerr, McBride, and Graham were as one in their determination to implement the Corps of Engineers plans for the waterways of the region.[9] Although long concerned about proper utilization of our water resources, Kerr had not really involved himself seriously in flood control, navigation, and hydroelectric power issues. After Kerr's death, Joseph E. Howell credited Kerr with saying "that here was a ready made issue which no one in politics was using and which he could make his exclusively."[10] Now his concern became *a,* if not *the,* dominant issue in his political career and his per-

[8] McBride Tape.

[9] Jim Henderson, "The Men Who Built the Waterway," *Tulsa,* 48 (27 May 71):33. Colonel Wilson has told the writer of this incident.

[10] Joseph E. Howell, "Sen. Kerr's Life Many Sided, Personal Glimpses Reveal," *Tulsa Tribune,* 3 Jan 43.

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sonal life, and a vehicle that would help to propel him into a position of tremendous power.

The flood set off serious, if not bitter, controversy between Newt Graham and Douglas Wright in which Graham fired the opening gun by blaming the severity of the flood on the earlier decision regarding reduced flood storage capacity at Pensacola and the operation of the facility immediately before and during the flood. He made his statement to the directors of the Chamber of Commerce. A week later, a reply by Wright, Federal Works Agency (FWA) administrator of the GRDA project, was read at the Director's meeting. An analysis of the positions will not be attempted here, but the point should be made that, besides generating interest, presentation of differing views promoted consideration of fundamental issues and perhaps understanding of problems involved in combining power production and flood control purposes in one dam.[11]

Another outcome was resurgence of interest among the leaders for river improvement, the gaining of many recruits for the cause, a renewal of efforts by members of Congress from the states involved, an invigoration of Corps personnel by the challenge, and above all a unity of purpose involving both ends and means. General Reybold, Chief of Engineers since September 1941, took time from his war-related duties to spend several days in aerial reconnaissance of the flooded area and the upper Mississippi and Missouri Basins where floods were developing and in conferences with Corps personnel, public officials, civic leaders, victims of the floods, and others. Senator Thomas and Reps. Wesley Disney and Jack Nichols, in whose districts the worst Oklahoma flooding occurred, came home to make personal inspections. Senator Thomas expressed the opinion that most of the damage could have been prevented if the flood control structures that had been planned and approved had been constructed.[12] General Reybold told newsmen who questioned him at Lambert Field in Saint Louis that "The only way by which we can cope with the Mississippi flood situation is by placing all reservoirs

[11] TCC Minutes, 18, 26 May 43.

[12] *Tulsa World,* 21, 22, 23, 24, 25 May 43; *Tulsa Spirit,* 20, 27 May, 10 Jun 43.

and dams from the Alleghenies to the Rockies under one control."[13] Subsequently the voices of flood victims and their leaders were heard by committees in Washington hearings.

There had long been good cooperation, on river matters, between the Chambers of Commerce of Oklahoma and Arkansas River cities and their spokesmen as well as between the Congressional delegations. Now, as never before, they understood in Arkansas that control of the tributaries of the Arkansas in Oklahoma and Kansas was vital to Arkansas. In the future the states would work together as neighboring states have seldom done in promotion of their common interest, and when the Arkansas River Survey Board did make its recommendations the two states would join in working for its approval and the appropriation of funds for its implementation.

Victor Barnett, associate editor of the *Tulsa Tribune* and president of the Tulsa Chamber of Commerce in 1940, was an active worker for the river cause, and at an October 1941 meeting in Little Rock he succeeded Newt Graham as president of the Arkansas Valley Association, formerly the Southwest Valleys Association.[14] Graham served as president of the Tulsa Chamber of Commerce for 1942, and Glade Kirkpatrick, Tulsa abstracting firm owner, became chairman of the Chamber's waterway committee whose name changed frequently. Barnett's interest was real and enthusiastic, but perhaps not so deep-seated as Graham's. He was more interested in power development as a means of financing reservoirs and flood control.[15] Graham found little hope in power development, and he did not want to spend his energy on a fight with the private power interests. He preferred to have them on his side. By the early 1940s he was convinced that flood control had to come first and that it was the sure means to the navigation he wanted so badly. Kirkpatrick, younger and a tireless worker who had served his apprenticeship in water resource matters, agreed essentially with Graham. By 1942 Graham saw too that feasibility could be established for navigation only if all the programs were brought together in a comprehensive plan.[16]

Eric E. Bottoms, civilian engineer in the Office of the Chief of Engineers, had been assigned to direct the economic feasibility study for the Arkansas River Survey Board. He easily established rapport with leaders on whom he depended to obtain some of the necessary statistical information on traffic. Graham and others were often in Little Rock for conferences with Bottoms and other Corps personnel. Graham took the lead in raising funds to finance the gathering of data to be considered by Bottoms and his staff. This information could also be used in the brief which would be prepared to support the findings of the survey board. Russell Rhodes, executive officer of the Tulsa Chamber of Commerce, and C. A. Border and W. W. Klingensmith of Rhodes's staff were involved. They obtained assistance from the faculty of Oklahoma A & M College (now Oklahoma State University).[17]

After some time extensions, the report of the survey board was signed on 31 December 1943 and with the endorsement of the SWD Engineer soon made its way through the Office of the Chief of Engineers to the Board of Engineers for Rivers and Harbors. It should be remembered that the primary purposes of the investigation of the Arkansas River and its tributaries in Arkansas and Oklahoma were to determine whether improvement for dependable navigation was economically justified and to determine the hydroelectric power potentials on the main stem and tributaries in those two states.

The survey board planned a navigation system involving channel cutoffs, canals, bank stabilization works, dredging, snagging, and a system of 34 locks and dams. It would utilize the Verdigris River from Catoosa to its mouth with modifications that would shorten the distance by 11 miles, and at the lower end of the waterway make use of a few miles of the White River. While a specific route was selected for cost estimates, the board recommended that alternate routes below Little Rock be studied before construction began. There would be three sediment

[13] *Tulsa World,* 24 May 43.

[14] *Tulsa Tribune,* 26 Dec 39; TCC Minutes, 26 Dec 39, 21 Oct 41.

[15] This conclusion regarding Barnett is based on conversation with some of his co-workers and various statements he made. Examples may be found in TCC Minutes, 20, 27 Feb 45.

[16] TCC Minutes, 4 Nov, 16 Dec 41, 28 Apr 42.

[17] TCC Minutes, 13 Oct, 24 Nov 42; *Tulsa Tribune,* 14, 23 Jul 42; *Tulsa World,* 24 Jul 42; *Tulsa Spirit,* 16 Jul, 17 Sep, 1 Oct 42.

control dams and other dams, most of which had been approved, for regulation of waterflow.

The board considered 23,384,000 possible tons of river commerce and eliminated 14,369,000 tons, thus leaving 9,015,000 tons to be carried on the river. The estimated annual savings, at an average of $2.17 per ton, on these 9,015,000 tons for which a definite saving in transportation charges could be shown was $19,606,000. With estimated annual charges of $19,545,000, the ratio of annual benefits to annual costs was 1.01 to 1. Thus the project barely passed the economic feasibility test.

After investigation of possible sites for hydroelectric power projects, including dams constructed or approved for construction, and utilizing FPC studies of power requirements in the area, the survey board concluded that the power plan should include the Oologah, Pensacola, Markham Ferry, Fort Gibson, Tenkiller Ferry, and Eufaula Dams on tributaries and the Short Mountain, Ozark, Dardanelle, and Little Rock Dams on the main stem. The variables made it difficult to determine the benefit/cost ratio, but the conclusion was reached that for annual benefits to equal annual charges the prime energy would have to be disposed of on a 21 percent load factor. The study indicated too that it would be many years before this could be done at all of the unapproved projects.

At this point in the study the survey board put together a comprehensive multiple-purpose plan in which it modified and combined the navigation and hydroelectric power plans in such a way that the sites considered "would be utilized to best advantage for the multiple purpose of navigation, hydroelectric power, flood control, and other beneficial uses."

The major modification of the navigation plan was the replacement of 11 low-head navigation locks and dams on the Arkansas River by 4 higher dual-purpose navigation and hydroelectric power dams and the addition of Blackburn Dam, mainly for sediment control, at a site on the Arkansas above the mouth of the Cimarron. The modifications of the power plan were (1) elimination of the planned dam on the mainstream at Little Rock, (2) the substitution of a relatively low dam for the high Short Mountain Dam (later named Robert S. Kerr), (3) the addition of a relatively low dam on the Arkansas at Webbers Falls, and (4) lowering of the height of the Ozark Dam. Plans for Dardanelle Dam were not changed. The four dual-purpose dams on the Arkansas then were Webbers Falls, Short Mountain, Ozark, and Dardanelle. The survey report sets forth the makeup of the plan:

> The multiple-purpose plan includes 23 navigation locks and dams, together with channel cut-offs and enlargements, canals, bank protection works, and snagging and dredging, as required to provide a dependable channel of 9-foot project depth from Catoosa to the Mississippi River. It also includes the Blackburn, Mannford, Taft, Oologah, Pensacola, Markham Ferry, Fort Gibson, Webbers Falls, Tenkiller Ferry, Eufaula, Short Mountain, Ozark, and Dardanelle Reservoirs which would function in various capacities for navigation, hydroelectric power, flood control, and sediment control. The Blackburn and Webbers Falls Reservoirs, both of which would be on the Arkansas River are the only features included in the multiple-purpose plan which were not included in either the navigation plan or power plan. The locations of all the other features of the multiple-purpose plan would be the same as those for the same features described under the navigation plan or the power plan.

The Mannford Dam on the Cimarron (already approved for flood control) and the proposed Blackburn and Taft Dams on the Arkansas would have sediment control as their major function in the multiple-purpose plan.

Important in understanding the benefit and cost estimating of the survey board is the fact that Pensacola, Markham Ferry, and Fort Gibson had been authorized by Congress for dual flood control and hydroelectric power purposes, Oologah and Tenkiller Ferry for flood control with provision for future installation of power, and Mannford for flood control. Due to their previously approved status no credit was taken in the multiple-purpose plan for the benefits derived from them; nor was any of their cost except that for adding power generation facilities at Oologah and Tenkiller Ferry included in the economic analysis. The total first cost, including interest during construction and excluding cost of already approved projects, of the multiple-purpose plan was estimated to be $447,223,000. Deduction of an estimated $1,105,000 Navy Department cost for navigation aids gives a total of $446,118,000 Corps of Engineers cost. The estimate of annual charges was $24,397,000 and annual benefits was $26,366,200, giving a benefit/cost ratio of 1.08 to 1 which was significantly better than the 1.01 to 1 for navigation alone. The estimate regarding power was based on disposing of the prime energy at the 30 percent load factor and estimates showed that a less favorable higher load factor would not materially change the benefit/cost ratio.

The conclusion reached "that the unapproved features of the multiple-purpose plan are economically justified for the coordinated purposes of navigation, hydroelectric power, and flood control when the annual charges are compared with the evaluated annual benefits" fulfilled the hopes of those who had long dreamed of barges on the Arkansas, but it was only the first battle victory in a long war.

There would be critics at all stages of the project and the Corps of Engineers would be castigated many times for its alleged lack of foresight and other shortcomings, but one who reads carefully the 758 Report, as the study is usually called, will be impressed with the honesty and candor and especially the head-on attack on, instead of retreat from, the obvious problems. This includes the awesome challenge of sediment control; inundation of and removal from production of fertile farmlands; the displacement of people and communities; costly relocations of highways, bridges, utilities, and public buildings; bank stabilization; construction sequence and schedule; future decisions as to route below Little Rock; and technical aspects of the system.

There was no camouflage as to how the favorable benefit/cost ratio was determined. By the time the Chief of Engineers made his recommendation in September 1945, legislation had directed that excess electric power and energy at projects under control of the War Department be delivered to the Secretary of Interior for transmission and disposal to consumers. This action removed the necessity of providing for the transmission and sale of energy as recommended by the survey board and thus reduced estimated cost to $435,000,000 for construction, exclusive of the works already approved, transmission facilities, and aids to navigation for which the Interior and Navy Departments were responsible. By 1971 the estimated cost was about three times this amount, and the survey board has sometimes been condemned for not foreseeing this increase. The difference between the estimate and ultimate cost is accounted for by such things as changes in prices, design, and legislation that increased the Federal obligation in relocations. The survey board pointed out that its cost estimates were based on costs of comparable work performed during 1937 to 1940, inclusive, except those for the alterations and relocations of bridges and other structures across the waterway, which were based on costs that prevailed in 1942 and 1943. Without calling it a warning, the report directed attention to cost indexes which indicated that costs during 1937 to 1940 were 15 percent higher than they had been during 1934 to 1936, inclusive, and about 20 percent lower than during 1942 and 1943. The board also projected a 5-year construction schedule, which would have been much less expensive than the one ultimately followed.

The report of the Board of Engineers for Rivers and Harbors is dated 11 September 1945. The date on which the Board received the report has not been determined, but surely it was not after late March 1944. Thus the consideration was lengthy and unhurried. The Board advised local interests that it was not convinced of the advisability of the United States undertaking all of the improvements recommended, and they were given an opportunity to present additional data. Public hearings were held in Tulsa and Little Rock in May 1945.[18]

Newt Graham, Glade Kirkpatrick, J. C. Murray in Little Rock, and their many associates had expected the report of the survey board to be ready at least a year earlier than it was, and in 1942 they had begun their preparations to support a favorable recommendation.[19] Graham seemed to be searching for a new organizational vehicle through which to work, and on 23 June 1944 at Russellville, Arkansas, he participated in a meeting at which the Arkansas Basin Flood Control Association was formed. He was elected to the position of chairman of the organization and the list of officers included Don McBride; Reece Caudle of Russellville; and men from Van Buren, Fort Smith, and Little Rock, Arkansas, and Wichita, Kansas. On 29 January 1945 Graham wrote to Senator Thomas about the organization and sent him a copy of the bylaws and statement of objectives. He commented: "Frankly, we oppose any laws which will remove the Corps of Engineers of the U.S. Army, the Reclamation Bureau, and Soil Conservation Service from this Basin. We believe they are doing a fine job and sincerely hope you will join us in upholding their efforts."[20] The reasons for formation of this organization are not entirely clear; but, although no direct

[18] H. Doc. 758, 79th Cong., 2d sess. [Report of the Arkansas River Survey Board.]

[19] *Tulsa Tribune*, 14, 23 Jul 42; *Tulsa Spirit*, 17 Sep, 1 Oct 42.

[20] N. R. Graham to Sen. Elmer Thomas, 29 Jan 45. Thomas Papers. Names of officers are on letterhead.

connection has been established, it is obviously related to its founders' loyalty to the Corps of Engineers and confidence in its proposals as contrasted to the creation of a valley authority for the Arkansas. The latter idea was not dead, and it would rear its head to confuse consideration of the multiple-purpose plan.

On 19 December Graham told the Board of Directors of the Tulsa Chamber of Commerce that the work on Arkansas River development was nearer a showdown than most people realized. He reviewed the steps through which the survey report had gone to get to the Board of Engineers for Rivers and Harbors, and commented that "the time has come when we must defend our position." He pointed to three advantages: (1) There was no conflict between the Engineers and the Bureau of Reclamation as there had been in the Missouri River Basin. (2) The Chief of Engineers was personally interested and hoped to push the plan through before his retirement the following fall. (3) Governor Kerr's presence made it a State, not an eastern Oklahoma, problem. In answer to a question from John Dunkin, Graham said he had sufficient funds to carry on this program.[21] A few days earlier Graham had asked that the worksheets which had been used in judging economic feasibility be transferred from Little Rock to Tulsa and that Victor Cochrane, Tulsa engineer employed by Graham, be given permission to study them. He even suggested that it would be fine if Eric Bottoms came with the worksheets to go over them with Cochrane. In a memorandum submitting the request to General Reybold, COL George R. Goethals commented: "Knowing friendliness of Mr. Graham, I would not question permission being granted to him. The main point is would we by doing so lay ourselves open to unfriendly interests coming along with similar requests." Reybold was not concerned. He simply returned the memo to Colonel Goethals, son of the Panama Canal engineer, with this penned comment above his initials: "No objection on the usual confidential basis."[22]

In early 1944 Governor Kerr and Gov. Ben Laney of Arkansas appointed the Arkansas-Oklahoma Interstate Water Resources Committee to prepare and present to the Board of Engineers for Rivers and Harbors the case for the multiple-purpose development of the Arkansas River. The Arkansas members were Reece Caudle, Russellville attorney; J. C. Murray, Traffic Manager of the Little Rock Chamber of Commerce; and Clarence F. Byrns, Fort Smith newspaperman. The appointees of Governor Kerr were T. Elmer Harbour of Muskogee, Don McBride, and Newton R. Graham. Graham was elected chairman. All were long-time, working advocates of the river development. The activities of the Interstate Committee were financed by public and private funds provided by the two states and civic organizations in the river towns.[23] Creation of this committee turned out to be an act of genius, for it brought together a group of very able, energetic men whose prestige was enhanced by having the support of two state governments as well as private organizations.

On 5 April 1944 Senator Thomas reported in a talk to the Tulsa County Bar Association that the US Engineers' Arkansas River study will recommend navigation to Catoosa, a number of flood control dams, and some dams for generating power. There was, however, very little publicity regarding content of the survey report until the third week of February 1945 when detailed information was disclosed and the announcement made that the Board of Engineers for Rivers and Harbors would hold hearings in Tulsa on 4 and 5 May and in Little Rock on 7 May.[24]

In late January 1945 Rep. John Rankin of Mississippi had introduced a bill (H. R. 1824) providing for creation of eight valley authorities patterned after the TVA. There would be an Arkansas Valley Authority made up of the basins of all the rivers

[21] TCC Minutes, 19 Dec 44.

[22] Memo, Colonel Goethals to General Reybold, 18 Dec 44 and attached copy of letter, N. R. Graham to Colonel Wilson, 14 Dec 44. NA, RG 77, Entry 800.92 (Ark. R. Kansas) (Misc).

[23] McBride Tape; TCC Minutes, 14 Mar 44; States of Arkansas and Oklahoma, *Additional Benefits in the Proposed Comprehensive Improvement of the Arkansas River Basin.* Submitted to Maj. Gen. [*sic*] Eugene Reybold, Chief of Engineers, United States Army, and the Board of Engineers for Rivers and Harbors, Tulsa, Oklahoma, 4 and 5 May 45, Little Rock, Arkansas, 7 May 45 (hereafter cited as Ark. and Okla., *Additional Benefits).*

[24] *Tulsa Tribune,* 5 Apr 44; 19, 22 Feb 45.

flowing into the Mississippi from the west below Cairo, Illinois, and the rivers flowing into the Gulf of Mexico west of the Mississippi. The major river basins included were those of the Arkansas, White, Red, and Rio Grande Rivers. In 1941 Rep. Clyde T. Ellis of Arkansas had introduced a measure (H. R. 1823) creating an Arkansas Valley Authority and Senators Carraway and Miller of Arkansas had introduced the same bill (S. 280) in the Senate. In 1942 Ellis again proposed an AVA (H. R. 6464) and Senator Josh Lee introduced the bill's counterpart in the Senate (S. 2226). There was no strong support for an AVA in either Arkansas or Oklahoma. In 1942 Senator Lee lost his Senate seat to Republican Edward H. Moore and Ellis failed in an attempt to win the Democratic nomination for Senator from Arkansas. No champion for an AVA arose in public life to replace them.[25]

In 1945 the situation was some different, for an organization called the Arkansas Valley Authority Association of Oklahoma had been formed at Muskogee with J. L. Haner, a lawyer-farmer of Muskogee, as president. The executive assistant to the president was another Muskogee attorney, Earl Boyd Pierce, who later would be the highly respected Cherokee National Attorney. The board members and other officers were mainly Muskogee business and professional people, including the mayor, but some were from other eastern Oklahoma towns.[26]

Interest in the Rankin bill, the activities of the AVA Association, and release of details of the Arkansas River survey report coincided, and suddenly the AVA Association and Newt Graham's Arkansas Valley Flood Control Association were pitted against each other. The difference between the AVA approach and the multiple-purpose plan of the Corps that received emphasis in the argument was the status of flood control, or to say it another way, the order of priorities. Opponents of the AVA said production of power was the first concern of an authority, flood control and navigation were incidental, whereas the Corps plan put flood control ahead of all purposes, navigation second, and power production in a third or incidental position. There was also concern about the methods of operation. Clarence F. Byrns simplified the issue in one of his regular "Off the Record" columns published on 12 February 1945 in the *Fort Smith Southwest American;* after admitting his admiration for the TVA, he took his stand for the Engineer program for the Arkansas Valley:

> The funds come from the same source—the federal treasury. The difference lies in the emphasis of authorities on power and the emphasis of the engineers on flood control and navigation, and upon the centralized power in a small board of appointive officials under the authority plan, as compared with the democratic expression of public opinion, under the Corps of Engineers plan, through actions of congress at every step of the way.

The argument shook up the Board of Directors of the Tulsa Chamber of Commerce. At a meeting on 20 February William B. Way mentioned the Rankin bill and castigated it without mercy. Glade Kirkpatrick called for support of the Corps and praised its plans, but he reminded his listeners that the Arkansas was the last major waterway in the country to be developed and that the Board of Engineers for Rivers and Harbors had to be convinced of the merits of the plan. When Victor Barnett of the *Tulsa Tribune* suggested that there should be a fair discussion of both sides and commented that Memphis favored the authority method, the mood became so nasty that no action was taken.[27]

A week later the Chamber of Commerce directors resolved unanimously to support the Corps of Engineers' multiple-purpose plan and to "continue to work for flood control and . . . navigation of the Arkansas river [*sic*] from its mouth to the fatherest upstream point which is found to be economically justified." Apparently in the intervening week differences had been worked out to the extent that this much could be agreed to. Barnett predicted that

[25] Walter Biscup, "The Valley in Peril: Engineers Ready for Flood Fight," *Tulsa World,* 15 Apr 45; "The Valley in Peril: Threat to State Rights Seen in AVA," 22 Apr 45; "The Valley in Peril: Flood Curb Big Valley Need," 29 Apr 45 (hereafter cited as Biscup, "The Valley in Peril" with date). Information for this footnote is in article of 22 Apr 45; *Congressional Record,* 77th Cong., 1st sess., pp. 89 and 122; 77th Cong., 2d sess., pp. 620 and 691-92.

[26] Telegram, Earl Boyd Pierce to Elmer Thomas, 24 Jan 45, and telegram, Elmer Thomas to Earl Boyd Pierce, 26 Jan 45. Thomas Papers; J. L. Arner to George B. Schwabe, 16 Feb 45, and copy of resolution passed by Pryor, Oklahoma, Chamber of Commerce on 27 Feb 45, in George B. Schwabe Papers, Western History Collections, University of Oklahoma Library (hereafter cited as Schwabe Papers); *Tulsa World,* 10, 13 Mar 45; TCC Minutes, 27 Feb 45.

[27] TCC Minutes, 20 Feb 45; *Tulsa Tribune,* 27 Feb 45; *Tulsa World,* 28 Feb 45.

the conflict would develop later over how to dispose of the power generated at the various dams. Way did not disagree with that, and he said "there will be hell to pay" in the future when "government bureaucrats attempt through an AVA plan to socialize industry and everything else we do."[28]

On 22 February the *Tulsa Tribune* made clear its position in a long editorial titled "The Arkansas River Plan" which undoubtedly was written by Barnett. He described the financial aspects of the Engineers' plan carefully and concluded that its cost and upkeep would be met by Congressional appropriations levied against the whole country. In contrast, the TVA plan is for it to pay back its cost from its earnings. The editorialist believed the Engineers' plan was better for the people of the Arkansas Valley, "but few if any sound business men wouldn't say that the TVA plan is better for the U.S." The strategy now should be to lend the "Army Engineers all the support we can in getting their plan off the drawing boards and into construction." If the people want it, the TVA plan can come later, at any stage of the proceedings, even after completion of construction. Sell the merits of the Army Engineers' plan now; do not attack the TVA plan. "Never in the history of the country have so few deserving people had a chance to get so much for nothing from so many."

The *Tulsa World* gave no indication of sharing the *Tribune's* admiration of the TVA. Walter Biscup of the *World* staff put together a well-researched and written series of three articles, published under the general title of "The Valley in Peril" in the paper's Sunday editions of 15, 22, and 29 April. The theme that a choice had to be made between the Engineers' plan and an authority approach ran through the articles. The TVA was carefully, even tediously, analyzed in such a way that the faults its critics had found were emphasized; the Ellis bill of 1941 for an AVA and the current Rankin bill were described; Oklahoma legislative history regarding water resources was reviewed; and much supportive information about the Corps of Engineers' activities in the Arkansas Valley was presented. The subtle implications of the three articles strongly favored the Corps' arguments.

The Arkansas Valley Flood Control Association, of which Newt Graham was chairman, had Biscup's articles reprinted in pamphlet form for distribution. *Public Service Magazine* of Saint Paul, Minnesota, reprinted them in its November and December 1945 and January 1946 issues.[29] Their impact is difficult to measure partly because, by their complex nature, they were aimed at a limited readership. Since Graham usually had a good reading of the public pulse, it is difficult to believe he considered an AVA even the remotest possibility, and one suspects that he was exploiting the revived interest in an AVA to unite leaders behind the program for which he had worked so hard. He and the Arkansas Basin Flood Control Association joined 20 other organizations interested in water resources in a joint letter dated 13 April 1945 to all United States Senators and Congressmen protesting the creation of regional authorities and supporting existing agencies, including the Army Engineers, Bureau of Reclamation, Department of Agriculture, and Federal Power Commission. The letter voiced strong approval of the Flood Control Act of 22 December 1944 (Public Law 534, 78th Congress) for its declaration of policies and which it called a water "bill of rights."[30]

On the opening day of the hearings in Tulsa the *Tulsa Tribune* reaffirmed editorially its admiration for the TVA's achievements in the development of cheap public power and its regret that the Corps of Engineers did not want to develop every possible kilowatt of electric energy from Oklahoma streams. Nevertheless, it argued convincingly for the need for the Corps plan and expressed its firm support for it.[31]

BG John J. Kingman, senior member of the Board of Engineers for Rivers and Harbors, presided over the hearings in Tulsa on 4 and 5 May and in Little Rock on 7 May. The witnesses and observers were a "Who's Who" of leaders of civic and other interested organizations. Governor Kerr and Don McBride were grounded in Washington by bad weather; and although McBride arrived to testify on the second day, Kerr's schedule did not permit his attending after missing the opening day. His forceful statement was filed with the Board. Senator

[28] Ibid., and TCC Minutes, 27 Feb 45.

[29] Copies are in the Tulsa District History File (hereafter cited as TD History File).

[30] Ibid.

[31] *Tulsa Tribune*, 4 May 45.

Thomas was on hand. Governor Laney made a statement at Little Rock. Besides the prestigious Board, the SWD Engineer and three DE's from the valley and their top staff members observed the proceedings.

Newt Graham led off for the Arkansas-Oklahoma Interstate Water Resources Committee which had ready a printed 89-page statement in support of the recommendations in the survey report. The Interstate Committee considered the Corps' estimate of $26,366,200 annual benefits to be excessively conservative and presented statistical evidence to show that there would be additional navigation benefits of $14,719,426 and benefits incidental to navigation of $28,866,000, bringing the total to $69,931,636. In the category of benefits incidental to navigation were such items as recreation, property value increases, irrigation, fertilizer and soil productivity, pollution abatement, and coal and mine productivity to which monetary values were aassigned. In addition, the worth of a possible source of industrial water and the contribution to national defense were discussed without attaching a dollar tag to them.

The Arkansas-Oklahoma Committee offered three suggestions which might lower costs and increase benefits: (1) Modification of the plans for Eufaula Dam to include a navigation lock to extend navigation to central Oklahoma, or lowering the height of the dam and constructing a second one near Tuttle, Oklahoma. (2) Consolidation of the proposed Taft, Blackburn, and Mannford Dams into one dam on the Arkansas near Keystone. (3) Consideration by the Chief of Engineers of the balance of public benefits from hydropower at Short Mountain and Dardanelle Dams as against the agricultural production value of rich valley lands that would be inundated.[32]

Numerous witnesses presented arguments for the river improvements. Pleas were made for inclusion of more hydroelectric power generating facilities by Douglas Wright, SPA administrator in charge of Pensacola; J. L. Haner, president of the AVA Association of Oklahoma; Howard Crocker, who said he represented 22 REA cooperatives with total membership of 120,000 people; and James P. Thompson, 1st vice president of Haner's AVA Association, from Tahlequah. The press quoted Haner: "The projects have no other major source of revenue, no way to pay for their own maintenance, nothing to offset the loss in farm lands to counties. Why hitch the horses, then let them stand idle?" Crocker avowed the farmers were interested in flood control and navigation but thought electricity had been neglected. He said four-fifths of Oklahoma's farms did not have electricity and that the REA had over 15,000 applications for service on file. Thompson wanted the electricity for what it would contribute to industrialization.

Rep. George B. Schwabe of Oklahoma's First Congressional District raised questions about the wisdom of the Oologah project as planned, and J. B. Milam, Chelsea, Oklahoma, banker whom Franklin D. Roosevelt had appointed Chief of the Cherokees and who had oil holdings in the Oologah Basin, said flatly he opposed the building of the Oologah Dam. But there was little expression of this kind of opposition.

Spokesmen for the Association of American Railroads presented the arguments of that organization against the navigation system. They favored flood control without saying that the railroads in the Arkansas Basin were among the biggest losers of all flood victims. F. E. Bates, chief engineer of the Missouri-Pacific, made the presentation at Little Rock. Among the points he emphasized were these: The proposal does not provide for adequate flood control. The area is now provided with means of transportation adequate for handling present and prospective traffic. The railroads' analysis of potential traffic shows the annual savings should be reduced from $19,606,000 to $6,854,000. The costs should be based on the forecasts for the time when the project would be constructed and should include all elements such as construction of terminals and facilities incidental thereto; and if this were done the first cost would be $920,000,000, and the annual costs would be several times the annual benefits and not justified economically. In contrast, J. C. Murray's statement presented statistics supporting the claims of the Interstate Committee and also contended that the railroads benefited from water transportation competition because of the increased business resulting

[32] Ark. and Okla., *Additional Benefits*. Colonel Wilson first proposed substitution of Keystone for the three other dams, having noted as he drove past the site frequently that it was perfect for a dam. He obtained authorization from OCE to make exploratory investigations there. Conversation with Colonel Wilson; Interv, Myron DeGeer, 26 Mar 73.

from the economic growth of the area both serve.[33]

Three months went by after the hearings without a report from the Board of Engineers for Rivers and Harbors. On 10 August Don McBride directed a memorandum to Governor Kerr advising that the comprehensive Arkansas River plan needed his personal attention and suggesting that he seek directly the assistance of President Harry S. Truman who "has expressed his hope to you that the Arkansas will be developed in pace with the Missouri" in expediting action. McBride told Kerr:

> I believe that the present Chief of Engineers, Lieut. General Eugene Reybold, knows more about the Arkansas River and the feasibility of its development than any living person. He is, however, engaged with vast war problems and the time is rapidly approaching when his time for retirement occurs. If the President could find time to tell General Reybold by telephone or letter, or both, of his personal interest and hope that the comprehensive development of the Arkansas will be included in a postwar public works program as is the Missouri, it will be done. If anyone less than the President expresses this hope, we believe the Chief would hesitate to ask the Board of Engineers to expedite their study . . . . Moreover, with such an expression of interest from the President, the Chief will feel that he is not in the last hours of his administration leading his successor into a program which might not have White House approval. The Chief is due to leave office in October, — hence time is an element.
>
> The best interests of the State of Oklahoma, I am convinced, will be served by you finding it possible to submit this matter to the President.[34]

Seven days later, 17 August, Governor Kerr, Don McBride, and Newt Graham presented the matter to President Truman in the White House.[35] On 1 September BG Harry H. Vaughn, Military Aid to the President, sent a one-sentence memorandum to the Chief of Engineers: "The President directs me to ask that the report referred to in Governor Kerr's letter be forwarded as soon as practicable." A noncommital reply to General Vaughn was made by the Secretary of War which said the Board of Engineers for Rivers and Harbors will complete its report at an early date, and the report of the Chief of Engineers will be completed as soon as practicable thereafter and sent to the governors of the basin states and the Secretary of Interior who have a maximum of 90 days to return their comments.[36] Nevertheless, quick action followed.

The report of General Kingman for the Board of Engineers for Rivers and Harbors was forthcoming on 11 September 1945. The Board concurred generally in the view "the multiple-purpose plan should be adopted as a guide for the future development and utilization of the water resources of the Arkansas Basin." It also approved further study of alternate routes below Little Rock, the silt problem, and other features before construction, and the recommended provision in the authorization for modification of the plans as found advisable by the Secretary of War and Chief of Engineers. The need for flood control measures was not questioned and the belief was expressed that the flood control measures proposed should be authorized for construction. "However," said Kingman, "the Board is not convinced that the benefits to be derived from the navigation project warrant its construction at this time."

The Board's recommendations reflected and partially restated its conclusions:

> Accordingly, the Board recommends that the multiple-purpose plan of improvement be adopted as a basis for the future development of the water resources of the Arkansas Valley, that the part of the plan involving flood-control features be constructed to supplement existing projects and that construction of the navigation features be deferred until there is more definite assurance that the benefits will justify the expenditure.[37]

On 20 September 1945 General Reybold made his recommendations in which he, in effect, overruled the Board of Engineers for Rivers and Harbors. His position is well stated in this paragraph of his report:

> After due consideration of these reports, I concur in the views and recommendations of the division engineer. I concur with the Board that improvements for flood control should be given a high priority in a program of construction. However, the navigation features comprise the principal part of the plan of improvement and will afford the greatest benefit to the area. It is to be expected that expansion of agriculture and industry will follow the completion of such an important link in our inland waterway system, resulting in the movement of considerably more commerce than at present in the basin. In my opinion, it is reasonably

[33] *Tulsa World,* 5, 6, 8 May 45; *Tulsa Tribune,* 4, 5, 8 May 45. Walter Biscup of the *World* and Joseph Howell of the *Tribune,* both exceptionally able reporters, covered the hearings for their respective papers. A copy of the statement filed by Governor Kerr is in the Kerr Papers.

[34] Memo, Don McBride to Gov. Robt. S. Kerr, 10 Aug 45. Kerr Papers.

[35] Robert S. Kerr to Honorable Harry S. Truman, 25 Aug 45 and Robt. S. Kerr to Maple T. Harl, 19 Jun 50. Kerr Papers; McBride Tape.

[36] Undated copy of memo to BG Harry H. Vaughan. NA, RG 77, Entry 800.92 (Ark. R.). A copy of the 1 Sep 45 memo from General Vaughan is with this entry.

[37] H. Doc. 758, 79th Cong., 2d sess., p. 18.

certain that the tonnage for the waterway will exceed the amount now estimated, this amount being based on present conditions in the basin with practically no allowance for growth of industry and the further development of the natural resources of the basin. I am therefore convinced that the construction of the navigation features is fully warranted and should be authorized at this time.[38]

General Reybold's report was mailed, on the date it was issued, 20 September 1945, for comment to the governors of the affected states. Governor Kerr's letter of approval carries the earliest date among the governors' responses, 25 September, and Governor Laney's was next, 29 September. The other gubernatorial responses were spread out over the next 3 months.

The comments of the Federal Power Commission dated 8 February 1946 show that the FPC staff had given extensive consideration to the various reports, and had concluded that the plan, with modifications, should be adopted. The staff's memorandum report with illustrative plates had been attached to the letter of comment which listed the proposed changes:

**Stated briefly, the modifications suggested by the staff included (1) the Keystone Reservoir, already under consideration by your Department, for flood control, silt retention, and power; (2) increase in the capacity of the Hulah Reservoir to obtain conservation storage;** (3) the addition of crest gates and power facilities at the Nimrod project; (4) the addition of six flood-control and conservation reservoirs (Council Grove, Marion, Cedar Point, Strawn, Waco, and Noel) in the Grand (Neosho) Basin above Pensacola; (5) increase in capacity of the Short Mountain Reservoir for flood control and power; (6) provision for power-navigation canals in connection with Short Mountain, Dardanelle, and Conway (lock and dam No. 12) projects; and (7) higher dam No. 9 and the inclusion of power facilities.

The FPC staff estimated that these modifications would increase the flood control storage capacity over 3,000,000 acre-feet and conservation storage about 2,500,000 acre-feet and more than double the power-generating capacity. The additional cost would be about $80,000,000 and the benefit/cost ratio would be improved from 1.08 to 1 to 1.2 to 1.[39]

LTG Raymond A. Wheeler, who on 1 October 1945 had succeeded General Reybold as Chief of Engineers, forwarded the FPC letter and report to the Resident Member of the Board of Engineers for Rivers and Harbors with the request that he review it and "prepare a draft of one or more paragraphs thereon to be incorporated in the Secretary of War's letter transmitting the Department's report to Congress." He explained that General Reybold had completed and signed his report before it was sent to the FPC and other agencies, "and I do not propose to change that report in any way." Wheeler considered it desirable that there be a minimum of delay in submitting the report to the Bureau of the Budget in view of the memorandum of 1 September 1945 from the White House, and then he quoted that memorandum from BG Harry H. Vaughn. "Accordingly," General Wheeler said, "in considering the views of the Federal Power Commission, no action should be initiated to return to the field or to modify the present report of the Chief of Engineers."[40] At this stage the White House memo may have had greater effect than it did at the time at which it was first sent.

Secretary of War Robert P. Patterson's letter transmitting the report to the Speaker of the House of Representatives is dated 24 July 1946, but the House Committee on Rivers and Harbors had held hearings on the comprehensive plan on 8 and 9 May. On 8 December 1945 Colonel Wilson told Graham that his office had received instructions to prepare for a Rivers and Harbors Committee hearing in the coming spring on the Arkansas River navigation proposal. Graham had anticipated this development and had inquired of Lachlan Macleay, president of the Mississippi Valley Association, as to what it would cost to get him to prepare the case. Macleay was not available to do it; nor could he suggest someone. Instead, he said, "go home, raise $100,000 for a three year campaign, and handle the case yourself, and I will help you." Graham concluded it would not be handled unless he did it, but he thought it unfair for the banks of Tulsa to continue to carry all the load of his time as they had done for years. He believed the costs would not require as much money as Macleay suggested, but money to meet expenses was needed. He prided himself on the fact that he had not been paid directly for his river work, a factor, he thought, in gaining his standing with the Corps of Engineers. Nor did he want to appear before a Congressional committee representing a river association, and here it should

[38] Ibid., p. 3.

[39] Ibid., pp. XVI-XVIII.

[40] Memo, General Wheeler to Senior Member, Rivers & Harbors Board, 15 Feb 46. NA, RG 77, Entry 800.92 (Ark. R.).

be said parenthetically that he avoided doing so everytime he could. In December 1945 the immediate problem was to get ready for the hearings of the following spring. He was aware that since the Chief of Engineers had approved the plan, the Corps would defend its findings; but the Corps needed an intelligent and informed display of interest against the opposition of railroads, large investment bankers, and river improvement supporters who would want their projects to come first, he believed. He unloaded these thoughts on his good friend John Dunkin.[41]

Dunkin and Graham made their plans carefully and involved others, and on 13 February 1946 Dunkin was the host at a dinner of Tulsa's leading citizens. Newt Graham gave the main address, a review of the events of nearly 30 years that led to this meeting. And then the Arkansas Basin Development Association (ABDA) was organized, and pledges totaling more than $80,000 to be paid over a 3-year period were made right there. Hotelman John D. Mayo was named chairman of the board and Graham was elected president. Vice presidents included Dunkin, oilman Charles Klein, steel company president N. R. Patterson, and merchants Maurice Sanditen and Gary Vandever. Russell S. Rhodes of the Chamber of Commerce became the secretary-treasurer.[42]

In his address Graham concluded by comparing Tulsa with Little Rock, Fort Smith, and Muskogee to show that only Tulsa could provide the leadership, and he closed with this challenge: "Having drilled this hole to the top of the deep formation, is Tulsa willing to bring in the well?"[43] In oil country these words were understood, but the willingness to bring in the well only developed with time.

The ABDA became a uniting and coordinating force, not alone for individuals, but for organizations which became members of ABDA and also for the states of the Arkansas River Basin. It was not, however, involved by name in the May 1946 hearings. The approximately 125 businessmen from Arkansas and Oklahoma attending the hearing depended upon members of the Arkansas Congressional delegation for assistance in the hearings with Rep. Oren Harris making the initial statement. Then COL P. A. Feringa, a very competent representative of the Corps, described the plan and answered questions, not all of which were friendly to the proposal. He was followed by Newt Graham who took charge of the presentation as the chairman of the Interstate Committee. The arguments were similar to those presented at the Tulsa and Little Rock hearings the year before, except that the Interstate Committee's claims of benefits were more conservative, but they gave a benefit/cost ratio of 1.97 to 1 as compared to the Corps claims of 1.08 to 1. Graham made a slide presentation with commentary, 46 minutes in length, showing the major features of the area and the proposed plan. He also had ready for the file of the committee a printed copy of the pictures and commentary. Graham quoted from General Reybold's report and repeated the statement, now a truism among many navigation promoters, "He knows the river, the resources, the people, and the plan probably better than any living man."

Numerous witnesses spoke, but none was more effective than J. C. Murray whose statement and answers to questions cover more than 40 pages of the published hearings. He talked in statistical terms of traffic that would use the waterway and the benefits that would accrue therefrom, and after the railroad spokesmen had stated their case again, Murray was permitted to enter in the record a rebuttal statement.

The arguments against the plan which R. P. Hart, identified as chief engineer for the Missouri-Pacific, and J. E. Johanson, vice president of the Southern Freight Bureau, made on behalf of the Association of American Railroads were essentially those used at the Little Rock hearing except that now they could emphasize the statement of the Board of Engineers for Rivers and Harbors in support of their contention that the 1.01 to 1 ratio for navigation was a very low margin. They continued

[41] N. R. Graham to John H. Dunkin, 10 Dec 45. ABDA Files.

[42] Ibid., 23 Jan 46; Minutes of Organization Meeting of ABDA, 13 Feb 46. ABDA Files; *Tulsa Spirit*, 14, 21 Feb 46. In addition to the officers the original board of directors of the ABDA was composed of Glen Ames, A. E. Bradshaw, Burtner Fleeger, Charles W. Flint, Herbert Forrest, M. E. Froug, George H. Gates, Paul Jankowsky, E. Fred Johnson, Richard Lloyd Jones, Jr., Glade Kirkpatrick, R. K. Lane, F. O. Lawson, R. L. Ledterman, O. W. Maloney, R. Otis McClintock, Tom P. McDermott, John Rogers, J. L. Shakeley, W. G. Skelly, T. H. Steffens, Ralph Talbot, and W. B. Way.

[43] "Address Given by N. R. Graham at Organization Meeting Arkansas Basin Development Association," 13 Feb 46. ABDA Files.

to single out navigation and claim that the benefit/cost claim for it was higher than the facts warranted.[44]

When the Senate Committee on Commerce held hearings in June on H.R. 6407, 79th Congress, an omnibus authorization bill which included the comprehensive Arkansas River plan, Arkansas and Oklahoma had a less formidable representation on hand, but spokesmen for the Association of American Railroads did get into the record all of the reasons for its opposition to the plan. Governor Kerr and other proponents were heard too. Graham was in Washington during the Senate Committee hearing but decided not to summon an array of witnesses who stood by at home ready to fly by chartered plane to the capitol.[45]

The provision in H.R. 6407 regarding the Arkansas plan as it emerged from conference committee and as enacted read as follows:

> Arkansas River and tributaries, Arkansas and Oklahoma: The multiple-purpose plan recommended in the report of the Chief of Engineers dated September 20, 1945, and letter of the Chief of Engineers dated March 19, 1946, is approved, and for initiation and partial accomplishment of said plan there is hereby authorized to be appropriated the sum of $55,000,000.[46]

On 11 October 1945 the *Oklahoma City Times* which, like the *Oklahoma City Daily Oklahoman,* was owned by the powerful and conservative E. K. Gaylord, denounced as bad fiscal policy the proposal for the navigation project. The paper charged that the promoters admit they really do not expect boats to run up and down the streams, but they think they will get "river base" freight rates. Oklahomans sought this project because they had the misconception that it did not cost them anything if the Federal Government paid for it. R. P. Hart had made this editorial a part of his presentation in the hearings.[47]

A. S. Mike Monroney represented the Fifth Oklahoma District, in which Oklahoma City was located, in the House of Representatives, and 1946 was the year in which he won the coveted *Collier's* award as the outstanding member of the House for his leadership in passage of the LaFollette-Monroney Act reorganizing the committee structure of Congress. He had a well-established reputation for independence of action, having worked a few years before to defeat a measure to increase the price of oil, legislation in which many of his constituents were vitally interested. Even this background did not eliminate the surprise when Monroney rose on 4 June and moved to amend the omnibus authorization bill to eliminate the provision approving the Arkansas River plan. His remarks following his motion were blunt and cutting. He emphasized that approval would commit Congress to a $435,000,000 project "not understood by one-tenth of the people of Oklahoma where most of the dams and reservoirs are located." He thought 9 out of 10 Oklahoma citizens would be willing to appropriate money to pave the Arkansas River but not to canalize it. The route was about 535 miles "over some of the driest land in the Middle West that you have ever seen." And Monroney said, "I do not believe the Government at this time should or could logically put up this kind of pledge that we will without further study, approve in toto this mammoth dream that has been fostered for several years by some local enthusiasts but which up until a recent time had not received the tiniest sprinkle of a blessing by the Army engineers." He wanted further study.[48]

Representatives Hays, Cravens, Norrell, and Harris of Arkansas were among those who answered Monroney. Monroney was accused of failing to take advantage of previous opportunities to inform himself and to oppose navigation. William G. Stigler was the lone Oklahoman to speak out, but he did it very effectively, and when the vote was counted, Monroney's amendment received 42 ayes against 99 noes. Don McBride watched the proceeding and then telegraphed Governor Kerr: "Mikes amendment to strike Arkansas project failed by 42 to 99. Stigler carried

[44] *House Rivers and Harbors Hearings, 8-9 May 1946.* Graham said later that preparations for and participation in this hearing, including witness expenses, cost approximately $25,000. The two states provided $8,000; Little Rock, Fort Smith, and Muskogee contributed $4,000 to match that amount from Tulsa. Many businessmen paid their own expenses. Typed copy of review of ABDA activities in 1946 by N. R. Graham (hereafter cited as Graham "ABDA Activities, 1946"). ABDA Files.

[45] Telegrams, Russell S. Rhodes to N. R. Graham, 3, 6 Jun 46. ABDA Files.

[46] 60 Stat. 636.

[47] *House Rivers and Harbors Hearings, 8-9 May 1946, pp. 149-50.*

[48] *Congressional Record,* 79th Cong., 2d sess., pp. 6280-81, 6284.

the ball. Made good presentation. Johnson, Wickersham, Boren voted against Mike. Schwabe, Rizley absent."[49]

Monroney's stand has been characterized as the result of an Oklahoma City-Tulsa rivalry, partly perhaps because of the stand of the Oklahoma City newspapers at the time, but his persistence in opposition for nearly 9 more years, including 4 of his years as United States Senator from Oklahoma, betokens a deep-seated conviction.

The Senate raised the immediate authorization to $150,000,000 as requested by Governor Kerr from the $55,000,000 in the House version. The senate figure was retained in the conference committee report, but Rep. George A. Dondero of Michigan, ranking Republican on the House Committee on Rivers and Harbors objected on the House floor to acceptance of the report. He said the House conferees had agreed to the Senate figure by only one vote, and he moved that the bill be recommitted to conference and that House conferees be instructed to hold to the original House authorization. The motion to recommit carried, and in the second Conference Committee report the $55,000,000 figure prevailed. Mike Monroney spoke and voted for the motion to recommit. Graham was in Washington during Conference Committee consideration of the bill. Later he wrote of the legislative history of the bill that there were at least five times when the program could have been lost; that Mike Monroney was the bitterest opponent, trying "to kill the program at every possible opportunity"; and that Mike "is still our greatest problem." He was grateful though for the Congressional approval of the navigation project, and by Graham's mathematics, the Tulsa District was given over 16 percent of all funds appropriated in 1946 for flood control in the United States.[50] He was pleased, but he did not forget that there was still a long road ahead even though he had taken significant actions in preparation for traveling that road.

That there would not be a time to relax efforts is suggested by the telegrams Senator Thomas sent on 19 July 1946 to Governor Kerr and Graham:

> Have information that Budget Bureau is asking President to veto Rivers and Harbors Bill carrying authorization for Arkansas Valley project. Suggest contact White House through any means available urging approval on theory that Budget Bureau can control appropriations for various items in connection with budget estimates.[51]

Four days later Thomas notified Kerr that "delegation conferred with President" and he advised them he had no intention of vetoing the bill.[52] Thomas and Stigler were there the next day when President Truman signed the measure.

Kerr had sought Truman's aid in March and April and had seen him in May. The President assured him of his interest in moving the bill along.[53] It is doubtful though that even Kerr and Graham understood at this time how important to success the Presidents and Bureau of the Budget would be in the years ahead. Nor did Graham foresee how significant Bob Kerr's support of Tulsa District projects would become, but he thanked him: "Bob, I don't know what in the world we would have done without you and it will take me a long time to pay back what I reckon to be my obligation to you.[54]

[49] Ibid., pp. 6281-84; telegram, Don McBride to Gov. Robert S. Kerr, 4 Jun 46. Kerr Papers.

[50] *Congressional Record,* 79th Cong., 2d sess., pp. 8474-78, 8523, 8534; N. R. Graham to Robert S. Kerr, 6 Jul 46. Kerr Papers; Graham, "ABDA Activities, 1946."

[51] Copies in Thomas Papers and Kerr Papers.

[52] Telegram, Elmer Thomas to Robert S. Kerr, 23 Jul 46. Kerr Papers.

[53] Robert S. Kerr to Honorable Harry S. Truman, 14 May 46; Harry Truman to Honorable Robert S. Kerr, 18 May 46. Kerr Papers.

[54] N. R. Graham to Robert S. Kerr, 6 Jul 46. Kerr Papers.

## CHAPTER VII

### *Let's Build a Dam!* [1]

The Denison District which was merged with the Tulsa District on 1 April 1945 was established 1 January 1939 to build Denison Dam on the Red River. Its original purpose was practically accomplished by April 1945, and it had a distinguished record of military construction into which it was thrust in 1941. Death of the District brought regret to the people whose dream of a dam to control the floodwaters of the Red River had given it birth.

Two men, George D. Moulton and Dr. Alex W. Acheson, whose names are legendary in accounts of efforts to harness the river, were among the three Denisonians who represented their city at the Oklahoma City flood control convention in Oklahoma City in the fall of 1927. Doctor Acheson's longtime interest was navigation, and he had promoted the trip of the paddle-wheel steamer *Annie P* up the Red River from Shreveport, Louisiana, to Denison in 1905. He had been making impassioned pleas for navigability of the river for decades before the Oklahoma City meeting. Moulton's interest was in a dam at the Baer's Ferry site on the Red River and he worked so hard for it that he is called the "Father of the Dam Idea." He obtained contour maps of what is today the Denison Basin, studied them and then selected what was to him the one logical site for the dam. Interestingly, the Corps of Engineers, after checking at least a dozen possible locations, chose exactly that location. In the summer of 1928 Moulton set up a model display of a dam at Baer's Ferry in a store window in Denison to show his fellow townsmen what it would be like.[2]

Across the river at Durant in Oklahoma, newspaper publisher G. W. Archibald became interested in the dam in 1933, and he gave more of his time and his means, to say nothing of his great effectiveness, than any other Oklahoman, to bring about construction of the dam. Gov. E. W. Marland appointed him to the Oklahoma Planning and Resources Board, but Gov. Leon Phillips removed him later due to his favoring the dam. Archibald is said to have formed a close friendship with Rep. Sam Rayburn in whose district the dam would be located, and his assistance to other Oklahomans working for Federal projects in the State won their friendship. The Durant and Denison Chambers of Commerce did battle for the dam. And there were other organizations, three of the best known being the Red River Flood Control and Navigation Association formed at Denison, the Oklahoma Red River Flood Control Association formed at Durant, and the Red River Valley Improvement Association which began at Shreveport, Louisiana, and spoke for members in the four states of Texas, Oklahoma, Louisiana, and Arkansas.[3]

For a time there was hope that the Engineer study of the Red River and its tributaries which moved forward after enactment of the 15 May 1928 Flood Control Act would result in recommendations favorable to construction of the dam. The study report was published in 1936 as House Document 378, 74th Congress, 2d session, and like the 308 Report on the Arkansas it found no economic justification for navigation, flood control reservoirs, and hydroelectric power development. The Vicksburg District had primary responsibility for the investigation, and it was done with the same kind of thoroughness that characterized the Arkansas River survey. Nine tributary dams were considered in addition to the Denison Dam on the main stem, and several of these would ultimately be authorized.[4] Denison's authorization came first.

The Flood Control Act of 22 June 1936 authorized another study of the proposed Denison Dam for flood control and development of

[1] Harold F. Johnson, "Let's Build a Dam! Here are men and scenes Involved," *Oklahoma City Daily Oklahoman*, 15 Mar 39.

[2] *Proceedings of the Oklahoma Flood Convention*. McBride Papers; Claudia F. Higginbotham, "Construction of Denison Dam," pp. 7-9. (A copy of this paper, written by the wife of the resident engineer at Denison in 1973 as a history research paper at the University of Plano, Plano, Texas, is in the TD History File); Evelyn S. Carlat, "Preconstruction Days," pp. 2-3. (A copy of this paper, written by a secretary and employee of the Denison office since 1942, is in the TD History File); James Richard Glenn, "The Controversies at the Red River" (M.A. thesis, University of Tulsa, 1962), pp. 102-03.

[3] Johnson, "Let's Build a Dam!";Glenn, "Controversies," pp. 103-05.

[4] US Congress, House, *Red River, La., Ark., Okla., and Tex.* H. Doc. 378, 74th Cong., 2d sess., 1936, pp. 5-6, 71-73, 129-31.

hydroelectric power, and funds provided by the Emergency Relief Appropriation Act of 1935 paid for it.[5] It was published in 1938 as House Document 541, 75th Congress, 3d session. Again the Vicksburg District was responsible for the investigation. LTC Lunsford E. Oliver, the District Engineer, made the following recommendation:

> It is recommended that the proposed Dension Reservoir, developed either for flood control and power or flood control only, be classed as a project with benefits and charges approaching an economic balance and that it be so presented for congressional action with appropriate references to the questions of policy and evaluation of intangibles involved as considered from a national viewpoint; that the preference with respect to economic desirability and adoption, as among the three schemes of development proposed, should be in order of priority, (1) combined power and flood control; (2) flood control with provisions for future installation of power facilities; (3) flood control only.

Both the Board of Engineers for Rivers and Harbors and the Chief of Engineers concurred in general in the findings of the District Engineer and recommended the construction of the dam for the dual purpose of flood control and generation of hydroelectric power at a rounded estimated cost of $54,000,000 for a generating capacity originally of 75,000 kilowatts with three generators and provision for adding two more 25,000 kilowatt generators.[6]

Congress authorized the project as a part of the comprehensive plan for the control of floods on the Mississippi River and its tributaries by the Flood Control Act of 28 June 1938. Some opposition was expressed in the committee hearings, but the measure had the full influence behind it of House Majority Leader Sam Rayburn. He personally won the support of President Franklin D. Roosevelt. The Oklahoma delegation supported the authorization, five of them appearing to speak for it at the House Committee on Flood Control hearing. Some Oklahomans were concerned about the State's rights to the water of the Red River if the dam were built. In accordance with the wishes of the Oklahoma and Texas representatives in Congress, Senator Thomas introduced an amendment which stated: "The Government of the United States acknowledges the right of the States of Oklahoma and Texas to continue to exercise all existing proprietary and other rights of supervision of and jurisdiction over the waters of all tributaries of the Red River within their boundaries above Denison Dam site . . . ." In effect, the amendment went on to say, with specific examples, that the two states could continue, after the dam was built, to do anything with the waters of the tributaries above the dam that they now could do.[7]

CPT Lester F. Rhodes had headed the staff from the Vicksburg District which made the investigation for the 541 Report, and he had maintained a project office on the second and third floors of the Citizens National Bank Building in Denison for more than a year in 1936 and 1937. T. S. Burns, S. M. Bailey, and James P. Smith were among his principal assistants. Colonel Oliver, the Vicksburg DE, kept close contact with the project.

When construction was authorized in 1938, Denison was no longer under the jurisdiction of the Vicksburg District, but was within the boundaries of the Little Rock District which had been created in 1937. Captain Rhodes, now attached to the Little Rock office, was sent to take charge of setting up an office in Denison. He obtained the same quarters his staff had occupied before in the bank building. It was soon announced that the Denison office would be headed by CPT Lucius D. Clay who was returning from the Philippines where he had been for almost a year serving as assistant military advisor of the Commonwealth Government. Captain Clay's job was to complete the final survey and to continue into actual construction when Congress made funds available. In late August it was announced that Captain Rhodes would be assigned to the Denison project as assistant to Captain Clay with whom he had been associated for 2½ years at Pittsburgh, Pennsylvania, beginning in November 1930. Until 1 January 1939 when the Denison District was activated, the Denison office functioned as a field office of the Little Rock District. The new District's jurisdiction extended over the entire Red River Basin above Fulton, Arkansas.[8]

[5] 49 Stat. 1596; *Denison Herald,* 22 May, 2 Apr 36, 3 Feb 37; US Congress, House, *Denison Reservoir, Tex.* H. Doc. 541, 75th Cong., 3d sess., 1938, p. 79; *Annual Report of Chief, 1937,* pt. 1, p. 860. All references to the *Denison Herald* in this history refer to clippings in a collection which were compiled by Corps personnel on a day-to-day basis at the Denison Dam office beginning in 1936 and circulated among selected staff members. Evelyn Carlat was responsible for the collection's preservation.

[6] H. Doc 541, 75th Cong., 3d sess., 1938, pp. 8-12.

[7] 52 Stat. 1215-26; Glenn, "Controversies," pp. 106-09.

[8] *Denison Herald,* various dates.

Citizens of the Denison area were informed by the *Denison Daily Herald* on Sunday, 7 May 1939, that model tests of the conduit and stilling basin for the dam were being launched at the Waterways Experiment Station at Vicksburg. Two weeks later it was announced that the Chief of Engineers had approved the design report substantially as submitted by Captain Clay. This news and the increasing size of the Engineer staff at Denison did not remove all anxiety during consideration in Congress of an appropriation that would really start construction. Partly this was because of opposition expressed by the representatives of Gov. Leon C. Phillips of Oklahoma at the hearings of the House Committee on Flood Control on 29 March. But C. C. Hatchett, Durant attorney and spokesman for Phillips, was no match for Sam Rayburn and G. W. Archibald who were supported by Senators Josh Lee and Representatives Mike Monroney, Wilburn Cartwright, Phil Ferguson, and Jack Nichols.[9]

On 29 June 1939 came the word to Denison that Franklin D. Roosevelt had signed an appropriation act that included $5,700,000 to start construction on Denison Dam. The *Herald* first received an Associated Press dispatch early in the morning. Soon afterward a telegram arrived from Sam Rayburn who was duly credited in Dension for the measure. The *Herald* quickly issued a four-page extra, and as it hit the streets the fire siren was sounded and the people learned the important news which, although it had been expected for several days, set off a spontaneous celebration. Stores and other businesses closed for a parade in which nearly everything on wheels in the town and most of the populace participated. It was compared with the Armistice Day celebration of November 1918. Over 10 years of doubt had ended and the dam would be built.

On 22 August a four-state gathering in Denison honored Rayburn for his contribution to the victory. He made an eloquent speech expressing gratitude for the tribute paid him, lauding the Roosevelt administration without which the advocates of Denison Dam "might still be dreaming," and crediting all those who had dreamed and worked for 40 years to make the project possible.[10]

Gov. Leon C. Phillips of Oklahoma was much less happy at the prospect of construction of the dam, and he had made up his mind to do everything within his power to block it. His motives are not entirely certain. Some of his critics, including Sam Rayburn and Josh Lee, charged that he was a voice for the private power interests, especially Oklahoma Gas and Electric Company. Those who defended his action credited him with seeing that Oklahoma's losses from the project would far exceed her chance of gain since 100,000 of the 150,000 acres to be inundated were in Oklahoma and included 3,800 acres of State-owned lands and large potential oil reserves as well as the residences of some 8,000 inhabitants. They said he foresaw the loss of large amounts of present and future tax revenues, and he was concerned about the obliteration of approximately 40 miles of Oklahoma's boundary. Others have seen Phillips as concerned about Oklahoma's water rights, for the proposal to divert water from the Red River to the Trinity in Texas to help make it navigable had long been an anathema to many Oklahomans, and some feared that creation of Denison Lake would be a step in that direction.[11] Perhaps the real explanation of Phillips' policy is to be found in his unquestioned conservatism that expressed itself often in an anti-New Deal, states' rights stance. For instance, in March 1940 he called out the National Guard to prevent closing of the gates at Pensacola Dam until a conflict between the State of Oklahoma and the Public Works Administration could be settled. A court order forced withdrawal of the Guard, but Phillips attracted newspaper attention all over the country as a Democratic governor with the courage to defy the Roosevelt administration. Joseph E. Howell of the *Tulsa Tribune* commented at the time that should there be a swing of the pendulum against centralized government, "Phillips should be in an excellent position to assume leadership."[12] If he did aspire to

[9] US Congress, House, Committee on Appropriations, *War Department Civil Functions Appropriation Bill for 1940,* Hearings before the Subcommittee of the House Committee on Appropriations, 76th Cong., 1st sess., 1939, pp. 382-445, (hereafter cited as *House Hearings on Civil Functions Appropriation Bill for 1940).*

[10] *Denison Herald,* 29 Jun, 22 Aug 39.

[11] Ibid., 9, 10 May, 26 Jan 39; Glenn, "Controversies," pp. 108-14; *House Hearings on Civil Functions Appropriation Bill for 1940,* pp. 382-445.

[12] Joseph E. Howell, "Governor May Be Losing Friends," *Tulsa Tribune,* 14 Mar 40.

a position of national leadership of conservative Democrats, his opposition to Federal projects in Oklahoma did not in the end serve his purposes.

Phillips was defeated in the Federal courts to which he turned to prevent the building of Denison Dam, but the fact of his losing is not so significant as pronouncements of the Supreme Court of the United States in the case regarding the powers of the Federal Government in the control of nonnavigable tributaries of navigable streams and nonnavigable portions of navigable streams.

Phillips had not made the dam an issue in his campaign for election to the governorship in 1938, but he attacked the project in his first message to the legislature in January 1939. After describing the area to be flooded and noting the towns, roads, and railroads that would be affected, he said destruction of this property would be a real financial threat to the State; whole counties and school districts would be impoverished. The benefits would accrue almost entirely to the citizens of Arkansas, Louisiana, and Texas, and Texans were accused of having designs on the project to help make the Trinity River navigable. The power production feature made the project illegal. The Federal Government was ignoring the rights of Oklahoma and thus threatening the balance of power between the states and the Federal Government and making a myth of states' rights.

Both houses of the legislature responded by voting for a resolution asking a halt in construction of Denison Dam until the State could investigate its effects. A few days later the Oklahoma Senate enacted a resolution to the effect that no general condemnation of Federal projects was intended in asking for a delay in the construction of the dam.[13]

Phillips failed to gain support for his position among Representatives and Senators from Oklahoma in Congress; in fact, Senator Lee spoke on the Senate floor of the absolute absurdity of Phillips' position. A major modification in plans, the lowering of the spillway elevation by 20 feet to reduce considerably the area to be flooded and to avert destroying the historic town of Tishomingo, did not satisfy Phillips.[14]

On 29 August 1939 Phillips ordered Mac Q. Williamson, Oklahoma Attorney General, to file suit against the Secretary of War, Harry H. Woodring, to stop construction of Denison Dam. Hearing on petition to the United States Supreme Court to file the suit was held on 29 and 30 January 1940. On 12 February 1940 the Court by a 4-4 vote, Justice Frank Murphy abstaining, denied the petition to file.[15]

Phillips threatened on 8 March 1940 to use force to prevent the movement on Oklahoma highways of materials to the damsite, but instead of carrying out this threat he sought on the next day an injunction in the United States District Court of Eastern Oklahoma on behalf of the State against the Guy F. Atkinson Company of San Francisco, a prime contractor on the project. Two special attorneys who were carrying out condemnation proceedings for the Justice Department were also named along with the Atkinson Company as parties to the suit. The basis of the suit was the previous arguments of Phillips, that the Federal Government was violating the sovereignty and proprietary rights of the State and that the power production feature made the project unconstitutional. The Governor's claim that the dam would cause a severe tax loss to Oklahoma was strengthened in the spring of 1940 when the Pure Oil Company brought in a discovery well, expected to flow 3,000 to 5,000 barrels a day, near the area to be flooded.[16]

Congress attempted to strengthen the Government position by amending the statement of purpose in the Act of 28 June 1938 which had authorized Denison Dam "for flood control and other purposes as described" in the 541 Report. An act of 17 October 1940 included this statement:

> The project for the Denison Reservoir on the Red River in Texas and Oklahoma, authorized by the Flood Control Act approved June 27, 1938, is hereby declared to be for the purpose of improving navigation, regulating the flow of the Red River, controlling floods, and for other beneficial uses.[17]

By this amendment Congress had converted the project from dual purpose to multiple purpose.

[13] Glenn, "Controversies," pp. 111-115.

[14] Ibid, pp. 114-15; *Denison Herald,* 21 May, 7 Jun, 20 Aug 39.

[15] Oklahoma ex. rel. Williamson, Attorney General, v. Woodring, Secretary of War, 309 US 623; Glenn, "Controversies," pp. 117-18.

[16] Glenn, "Controversies," p. 119; State of Oklahoma ex. rel. Leon C. Phillips, Governor, v. Guy F. Atkinson Company, et al., 37 Fed. Supp. 97-99.

[17] 54 Stat. 1198.

The three-member panel of Federal judges held hearings at Muskogee, Oklahoma, in late October and on 25 January 1941 announced its findings which were against Phillips on all legal issues. The suit was dismissed, thus giving Phillips what he wanted—an opportunity to appeal the case directly to the United States Supreme Court. The findings and reasoning of the panel presaged accurately the position the Supreme Court would take.[18]

The case was argued on 6 and 7 May 1941 and the decision was announced on 2 June. In their briefs, Phillips' lawyers contended that the Denison project could not be sustained under either the interstate commerce power or the general welfare clause and that its authorization was in contravention to the Tenth Amendment to the Constitution. Since two functionally separate and independent projects, one being the generation of water power which was clearly beyond the power of Congress to enact, were inextricably united, the whole project was unconstitutional. Nor did the declaration by Congress of the multiple-purpose nature preclude a judicial inquiry as to the facts. The power to condemn property for public use would not be applicable here, for a declared purpose that is outside the constitutional power of Congress is not one for public use.

The Supreme Court found that the Denison Reservoir, as a part of a comprehensive scheme to control the floods of the Mississippi River and its tributaries, was a valid exercise of the commerce power. Many of the issues raised, it found, were matters for Congress and not the judiciary to determine. Among the pronouncements of the Court, well grounded in precedent, were these: (1) The fact that portions of a river are no longer used for commerce does not dilute the power of Congress over them. (2) The power of Congress over navigable waters may be exercised over the nonnavigable stretches of a river in order to preserve or promote commerce on the navigable portion thereof. (3) The power of Congress over flood control on navigable streams extends to their tributaries and watersheds, and includes the power to control, under a comprehensive plan, the entire basin of the stream. (4) The fact that other purposes will also be served does not invalidate the exercise by Congress of its power to protect interstate commerce. (5) The exercise by Congress of its power over flood control on navigable streams is not invalidated merely because the project will also serve other ends, or because flood control may be relatively of lesser importance. (6) The fact that land is owned by a state is no barrier to its condemnation by the United States. (7) A Federal program of flood control on navigable streams is superior to any program of the state for water development and conservation.[19]

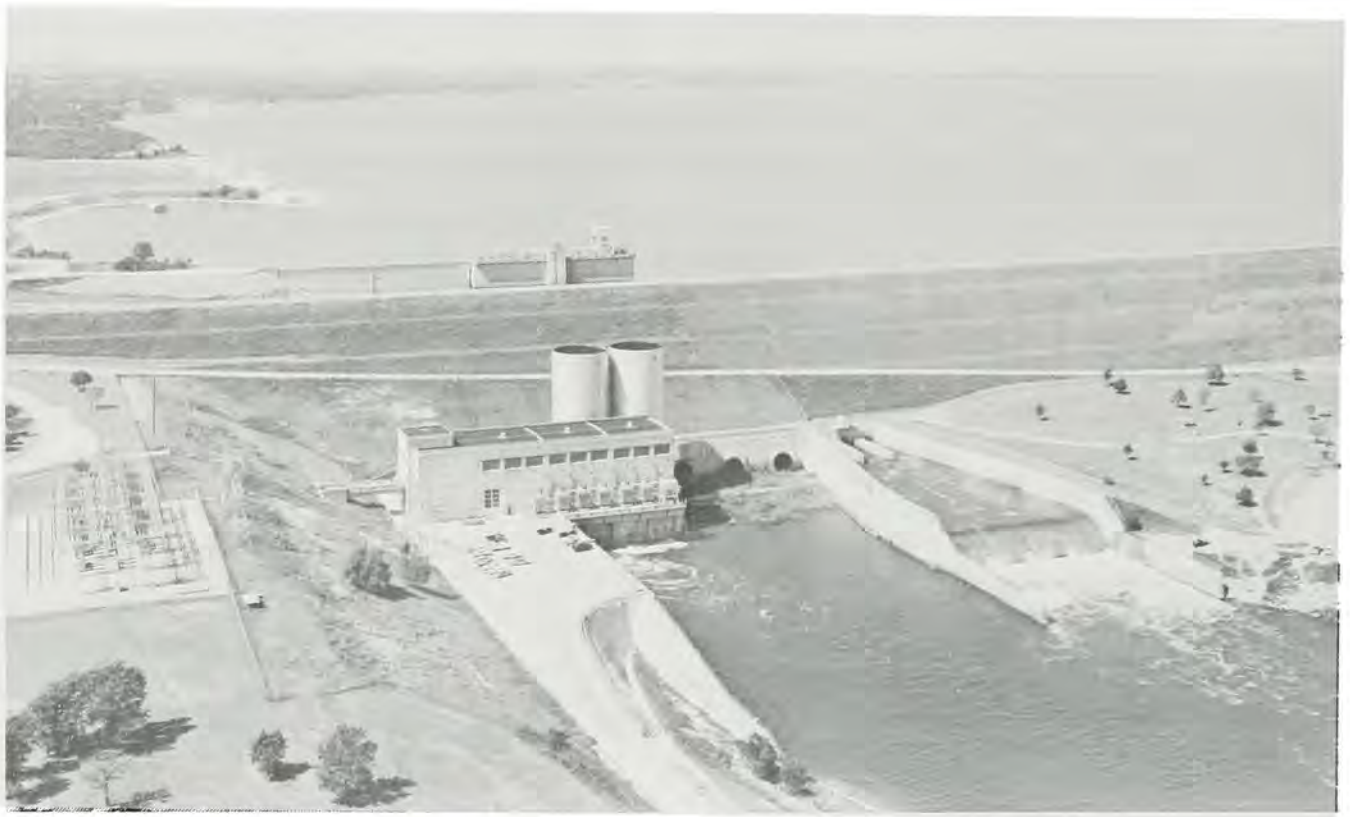
The Supreme Court's decision in this case had the effect of making clear the extent of the power of the Federal Government in developing the nonnavigable tributaries and nonnavigable portions of navigable streams over which there was no question about jurisdiction. And it stated firmly the doctrine of Federal supremacy in the instance of conflict between legitimate Federal and state projects. It can well be called a landmark case.

The litigation did not slow construction of Denison Dam. Work went on as if there were no legal threat. Nor did the need for manpower and materials for defense before and during US participation in World War II interfere with building the dam as it did with many civil works projects. In fact, the war expedited construction because of a projected need for power. Closure of the dam in July 1942 placed it in operation for flood control purposes. On 9 March 1945 the first power generating unit with a capacity of 35,000 kilowatts began producing power which was sold to Texas Power & Light Company through the Southwestern Power Administration (SPA) of the Department of the Interior, and Oklahoma Gas & Electric Company soon was receiving power from the dam too.[20] The second generating unit of 35,000 kilowatts did not go on the line until 18 September 1949, and it has not been feasible to install the three other units for which provisions have been made.

[18] 37 Fed. Supp. 97-99.

[19] State of Oklahoma ex. rel. Leon C. Phillips, Governor, v. Guy F. Atkinson Company, et al. 313 US 508-35.

[20] Tulsa District, Corps of Engineers, Department of the Army, *General Information, Denison Dam and Lake Texoma, Red River, Oklahoma and Texas.* Revised March 1948, pp. 16, 18; "Denison Dam (Lake Texoma) Red River, Oklahoma and Texas, Project Information for Task Force on Water Resources and Power, Commission on Organization of the Executive Branch of the Government," typed copy of statement prepared by Corps of Engineers, Department of the Army, May 1954, p. 2 (hereafter cited as "Project Information for Task Force"); *Denison Herald,* 9 Mar 45; Higginbotham, "Construction of Denison Dam," p. 18.



**Denison Dam**

Elaborate dedication ceremonies were held on 1 July 1944, the date on which the project was essentially complete for flood control purposes. Among the participants on the program were General Reybold, Rep. Wright Patman, and Sen. Elmer Thomas; but the principal address was given, as it should have been, by the Honorable Sam Rayburn, now Speaker of the House of Representatives.[21] Final Congressional action was taken on 20 September 1944 to change the name of the Denison Dam Reservoir to Lake Texoma, after Sam Rayburn's colleagues in the House had acceded reluctantly to his plea that they save him from embarrassment and not name the lake after him as so many wanted to do. The Red River Valley Improvement Association had suggested the name Lake Texoma, and Senator Thomas introduced the bill that made that name official.[22]

Denison Dam is a rolled earthfill structure, 15,200 feet in length and with a maximum height of 165 feet above the riverbed. The top of the dam, elevation 670 feet, is 25 feet below that originally planned. The top of the power pool is elevation 617 feet, and the spillway crest is at 640 feet, giving a flood control storage between 617 and 640 of 2,690,000 acre-feet. A small "Platter Dike" with a crest length of 6,000 feet closes a low saddle about 3 miles northeast of the Oklahoma end of the dam. The 2,000-foot, ungated, converging, concrete, chute-type spillway with a 750,000 c.f.s. capacity was constructed on the Texas abutment. Floodwaters pass through the spillway channel and stilling basin into a 400-foot-wide pilot channel into Shawnee Creek through which they are returned to the river nearly a mile downstream from the dam. Of the eight gated conduits with inside diameter of 20 feet each from the intake structure to the powerhouse and outlet channel, three were planned for flood control usage.

An interesting additional feature of the project is the Cumberland Dikes, completely unforeseen at the time of authorization. By early 1943 the second largest producing oilfield in Oklahoma had developed around the Pure Oil Company's No. 1 Little-100 which came in on 6 April 1940. On 22

[21] Program, Dedication of Denison Dam and Reservoir Project; Higginbotham, "Construction of Denison Dam," p. 18.

[22] Higginbotham, "Construction of Denison Dam," p. 16; *Denison Herald,* 20 Sep 44.

**MAJ Lucius D. Clay**

**COL W. W. Wanamaker**

April 1943 there were 67 producing wells, 8 drilling, and 4 new locations staked in the Cumberland Field. The field extended about 4 miles along the Washita River some 30 miles upstream from its confluence with the Red River, and hence was scheduled for inundation by the Washita arm of the lake. The Corps of Engineers designed a system of dikes and channels to protect the oil wells. The protection project involves levees completely across the Washita Basin upstream and downstream from the oilfield and a diversion channel to the east of the original river channel which connects the body of water above the oilfield with the main reservoir. Approximately 8,000,000 yards of earth were moved and the total cost was nearly $5½ million, but this was cheaper than buying an oilfield.

The cost of land acquisition was $6.6 million. A significant reduction from the original estimate of $8 million resulted from the decision to lower the crest of the dam. On the other hand, cost of relocating railroads, highways, and utilities exceeded the $7.25 million estimate by nearly $5 million due to modifications of the project document relocation plans and price level changes. The cost was also increased by the care taken because of the war, to minimize disruption of utilities and transportation.[23]

Until 16 August 1942 the Denison project had a real estate office in charge of land acquisitions, but on that date this office became a subdivision of the SWD office in Dallas. On 15 December 1942 CPT James Lee Hogue, Jr. came from the Vicksburg office, where he had been Chief, Appraisal Section for nearly a year, to head the SWD land acquisition operations in the Denison District. A graduate of the University of West Virginia, Hogue had previously spent 7 years in land acquisition work in the Department of Agriculture. The largest single land acquisition task was that of acquiring the 170,000 acres required for Denison Dam, but by mid-1943 military construction had required purchase of enough land to bring the total to approximately a half million acres.[24]

Shortages in the labor supply combined with administrative problems of the war to bring a new phenomenon to the Denison project in 1943. The US was having its first experience with the internment of prisoners of war captured in the European and Asian theatres of war, and in the spring of 1943 was evolving policy under strict requirements of international conventions regarding management of prisoner-of-war camps and utilization of the prisoners. In these circumstances members of Hitler's crack Afrika Korps captured in North

[23] Corps of Engineers, *General Information, Denison Dam and Lake Texoma,* pp. 5-13. "Project Information for Task Force," pp. 3-4.

[24] *Denison Herald,* various dates.

Africa found themselves living in camps near Tishomingo and Powell in Oklahoma and clearing timber in the reservoir area. Many of them had never cut down a tree, but they learned quickly and in the time of their internment in Oklahoma cleared over 7,000 acres of timberland.[25]

Four District Engineers headed the Denison District during the 6 years and 3 months of its existence. All seem to have had excellent rapport with the leaders of Denison and the area.

Lucius D. Clay, whose tour at Denison began officially on 1 September 1938, left Denison on 30 September 1940 to become assistant administrator of the Civil Aeronautics Administration in the construction of new defense program airports throughout the country. He had become District Engineer when the District was formed 1 January 1939, and during his time at Denison had acquired the rank of major. In less than 10 years after leaving Denison, Clay retired from the Army with the rank of general. His last assignment, 1947-49, was that of military governor of the United States Zone in Germany. Clay's first military assistant, CPT Lester F. Rhodes, left Denison earlier to become the Louisville District Engineer, and Rhodes's successor, CPT James H. Stratton, became the District Engineer at Conchas.

Major Clay was succeeded by CPT Gordon E. Textor who had been Clay's first military assistant since transferring to Denison from Fort Leavenworth, Kansas, the preceding June. A 1924 West Point graduate, Textor brought a background of experience that fitted him well for his new assignment, but he was overtaken by health problems. After a month in Walter Reed General Hospital, during which time MAJ Roland C. Brown, was acting DE, now Major Textor was relieved by MAJ William W. Wanamaker on 29 July 1941.[26]

Major Wanamaker, a native of Massachusetts, had graduated from West Point in 1918. After a varied career, Major Wanamaker was assistant to the Division Engineer at Little Rock when the SWD offices were moved from Little Rock to Dallas in February 1941, and he remained in that assignment until named DE at Denison. His tenure at Denison was the longest of the DE's, lasting until January 1944 when he was sent to an overseas assignment. Wanamaker's tour at Denison was the period of greatest achievement for the District in both civil works and military construction. The press announced that the Denison Dam project was 23 percent complete when he arrived and 95 percent complete when he left. At best, these are only approximations, but before he reached the midpoint of his tour a peak of over 3,700 persons in military construction a total of 5,200 employees was reached. Wanamaker bore the rank of colonel when he left.[27]

MAJ Emlen J. Wanless succeeded Colonel Wanamaker as DE. His relation to the Denison District is an unusual one for a DE. One of the first things Captain Clay had done as DE was to go to the Conchas District, in New Mexico, to recruit top personnel, and he obtained several civilians, one of whom was Wanless. Another was John B. Alexander who for over 2 years served as the principal civilian assistant to the DE. A third was Asa V. Shannon who in time became assistant to Wanless while Wanless was Chief, Military Projects Division of the District. Wanless was considered the keyman in the design and construction of the army camps, airfields, hospitals, ordnance plants, and other military projects. In May 1943 Wanless was called to the Army with the rank of major and was stationed at Camp Claiborne, Louisiana, until July of that year when he returned to the Denison District. In the fall of 1943 he served for a time as acting DE while Colonel Wanamaker was on temporary foreign assignment. An Ohioan and graduate of Ohio University, Wanless had joined the Corps of Engineers in 1931 after doing railroad engineering work. He was promoted to lieutenant colonel, effective 11 October 1944.[28]

By the end of 1944 both military and civil works construction in the Denison District had tapered off and further decline was in prospect. Unlike the Tulsa District, Denison had not built up a backlog of planning for future construction. On 1 May 1944 the announcement by COL Robert R. Neyland, SWD Engineer, of transfer of all upper Trinity

[25] Ibid., 30 May 43.

[26] Ibid., 23 Jun, 26, 30 Sep 40, 29 Jul 41.

[27] Ibid., 9 Jan 44 and undated clipping from *Denison Herald;* General remarks of the District Engineer, Tulsa District Personnel Inventory and Appraisal, 31 Oct 46. NA, RG 77, Entry 290 (Tulsa DO).

[28] *Denison Herald,* 15 Jun 43, 18 Jan, 18 Oct 44, 19 Jun 45.

River watershed improvement work from the Galveston District to the Denison District was seen in the Denison area as "the promise of a more permanent status" for the Denison office. There would be extensive levee and other flood protection work in the Dallas and Fort Worth areas, and "future materialization of Trinity navigation proposals would give the Denison office another major project."[29] A general reorganization of the administrative structure, effective 1 January 1945, reflected the reduced load, but did not foretell the end of the District's existence 3 months later. Lieutenant Colonel Wanless' three administrative assistants in the new arrangements were L. T. Webb for administrative affairs, MAJ A. T. F. Seale for military engineering, and Asa Shannon for civilian engineering. Webb had come to Denison with Captain Rhodes when the office opened. Major Seale, a former state highway engineer, had joined the District force in June 1942. Earl D. Yarcho was head of the Engineering Division, CPT George B. Parks, the head of the Redistribution and Salvage Division, and H. L. Johnson headed the Operations Division.[30]

On 26 February 1945 the *Denison Herald* was jubilant over the postwar River and Harbor bill that had gone to President Roosevelt for his signature, for it had authorized a $15,000,000 program of reservoirs on the upper Trinity River. The Denison District could now prepare the project report. This ardor was killed when BG E. M. Marks, SWD Engineer, announced in Dallas at noon on 27 March 1945 that, effective 1 April, the Denison District would become a suboffice of the Tulsa District. The announcement explained that the action was in line with economy and manpower conservation. General Orders No. 5 of 16 March 1945 had directed the change. By it the Denison District's responsibility for the upper Trinity River Basin was transferred back to the Galveston District, and the Tulsa District was given jurisdiction over the Red River Basin above Fulton, Arkansas, and responsibility for all military construction the Denison District had underway.[31]

There were approximately 875 employees of the Denison District at the time of its merger with the Tulsa District. Steps were taken to reassure these people of the probability of their continued employment with the Corps of Engineers and also to assure the Denison community that it was not to be abandoned by the Corps; nor would engineer operations be discontinued in the area. Conferences were held in Tulsa with top personnel from Denison. Colonel Wilson, the Tulsa DE, came to Denison for meetings with employees and business leaders; he spoke to a combined Rotary and Lions Clubs luncheon on 6 April; and he continued to keep in close touch with the situation. His explanations and interests were appreciatively acknowledged, but there were limitations on what he could do. His task was not easy, and it was complicated by the fact that, in this time of retrenchment in both the Denison and Tulsa Districts returning service personnel were guaranteed the jobs they had left. There were instances where a Denison employee who outranked on a point basis the comparable Tulsa employee "bumped" the latter out of his position. Many of the Denison employees were already involved in projects that the Galveston District took over, and they and others became employees of that District. There were openings in Corps operations elsewhere for a sizeable number. Others left the Corps for other employment.[32]

On 25 July the *Denison Herald* reported that approximately 400 were employed in the Denison office and at field points under its jurisdiction. Colonel Wilson said the shifting of personnel was substantially completed. LTC E. J. Wanless had been transferred to the Great Lakes Division at Chicago and had been succeeded by Major Seale as the head of the Denison office. In October Major Seale retired from military service and Colonel Wilson announced that Seale's assistant, Olaf Lein, Jr., would be the resident engineer at Denison. In September Lynn T. Webb became the head of the Audit Section in the Fiscal Branch of SWD in Dallas. Webb recalled that, when Captain Rhodes was getting a staff together at Little Rock to open

[29] Ibid., 1 May 44.

[30] Ibid., 28 Dec 44.

[31] Ibid., 27 Mar 44 and Editorial, "Engineers Are Needed Here," 30 Mar 44. A copy of GO No. 5 is in the TD History File.

[32] *Denison Herald,* various dates; Interv, Charles R. Flanery, 6 Jun 73; Interv, COL Francis J. Wilson, 1 May 74; FONECON, Howard A. Wesner, 25 Jun 74. Conversations with Wesner, Donald Koons, and William O. Penglase, who came to the Tulsa District from Denison, have been helpful in obtaining information.

the Denison office in 1938, he had not been able to understand Rhodes' excitement about coming back to Denison. Now, after 7 years there, Webb understood, and being the last member of the original staff to leave he said he would be happy to remain there "from now on."[33]

[33] *Denison Herald,* 16 Sep 45.

Denison Dam and Lake Texoma and the whole Red River Basin above Fulton have remained an important part of the Tulsa District.

## CHAPTER VIII

*The job may be tough, but we can and will do it.* [1]

The Tulsa District was created as a civil works district in 1939, and there were no plans for it to have a military construction function. Developments not entirely unforeseen in 1939 put the District in the military construction business in 1941. It continued there until 1961 when that responsibility was transferred to other districts.

Throughout all its history the Corps of Engineers has provided combat engineers when the Nation has been involved in war. In large measure the rationale for the Corps' construction of civil works projects is that it keeps an experienced engineering organization intact for service in war. World War I was the first conflict which necessitated an immense military construction program within the United States. Historically, responsibility for required noncombat construction had been shared by various branches of the Army, among them the Quartermaster Corps (QMC), the Ordnance Department, and the Signal Corps, but the QMC was known as the principal such agency. However, its construction capability did not approach that of the combat branch and public works construction agency, the Corps of Engineers. In the initial stages of World War I these agencies, including the Cantonment Division established in May 1917 and nominally in the Quartermaster Corps, carried out construction. The Cantonment Division was replaced with the Construction Division of the Army by order of 13 March 1918, which on 10 April was made responsible for plans, specifications, and estimates for all military construction projects.

A controversy over postwar responsibility for military construction was resolved by a compromise measure, the Defense Act of 1920, by which the Construction Division was made a part of the QMC. Thus Congress had decided against either creating an independent Construction Division or assigning the task to the Corps of Engineers. In the Engineers' view the QMC was a supply organization. An agency whose one responsibility was construction still was needed. The Corps of Engineers could fulfill that need![2]

There was so little military construction in the United States between 1920 and 1938 that it made no great difference who did it. In fact, more military construction was placed in July 1942, the peak month of World War II building, than the total for military projects in all the years 1920-38. On the other hand the public works program of the Corps of Engineers kept a sizeable construction organization in existence. The signing of the Munich Agreement on 30 September 1938 marked a turning point in American attitudes toward defense. In the prevailing isolationist atmosphere, Franklin D. Roosevelt was able to take only the beginning steps toward military preparedness. Very quickly there were divergent views as to where responsibility for emergency construction should lie. As the preparedness program grew and Congress granted requests for funds, the Construction Division of the Quartermaster Corps emerged as the principal constructor.

With the upturn of military construction there was an accompanying decline in civil works; the trend, if continued, could impair the Engineer organization's strength. Its leaders had to be concerned. Meanwhile the Construction Division of the QMC was hard pressed to meet the demands upon it, and was confronted by critics. Some had good basis for their complaints; other discontent was related to inevitable power struggles; but there were responsible military and civilian leaders who, whether considering or disregarding personal ambitions, organizational jealousies, and the like, had to get the job done.

A significant step was taken on 18 November 1940 when GEN George C. Marshall, Chief of Staff, under authority of an act of Congress of 9 September 1940, ordered that all construction at Air Corps stations, except those in Panama, be transferred to the Engineers without delay. An implementing order went out the next day. The order

[1] MG Eugene Reybold, "Mobilizing Construction for Victory," *The Constructor,* Mar 42, p. 51.

[2] Lenore Fine and Jesse A. Remington, *The Corps of Engineers: Construction in the United States,* UNITED STATES ARMY IN WORLD WAR II (Washington: US Government Printing Office, 1972) is the source for background information on military construction except where otherwise cited.

opened the way for the Tulsa District's first military construction.

On 11 December 1940 LTC Brehon B. Somervell, one-time Memphis District Engineer when that District embraced the territory of the Tulsa District, replaced BG Charles D. Hartman in command of the Construction Division of the QMC. Reorganization and restaffing quickly followed. One action should be noted. On 30 December, nine territorial construction zones having the same boundaries and headquarters as the nine corps areas were established. Each was headed by a Zone Constructing Quartermaster General (ZCQM), responsible to the Quartermaster General. Other steps, including recruitment of personnel and greater decentralization, strengthened the organization, and the huge building program progressed with one part under the Quartermaster Corps and another under the Corps of Engineers.

A number of persons in responsible positions soon had to face the issue of whether the QMC had been strengthened sufficiently to handle the challenge. And the Corps of Engineers needed a continuing and enlarged construction assignment to avoid stagnation. Somervell's personal ambitions were a part of the picture, but in August 1941 President Roosevelt nominated General Reybold, former Memphis District and SWD Engineer, to succeed General Schley as Chief of Engineers. The President on 29 August initialed his approval on a memorandum from Robert P. Patterson, Assistant Secretary of War, proposing to transfer all Army construction work to the Corps of Engineers. On 1 December 1941 he signed the "Madigan Bill" which did just that. Perhaps more than any other one person, Michael J. Madigan, who became special assistant to Patterson on 23 September 1940, was the architect of this policy and organization change. Senior member of the great New York engineering firm, Madigan-Hyland, when he entered Government service, Madigan had, with assistance from others, accomplished a difficult selling job. The transfer put the Corps, including the Tulsa and Denison Districts, into military construction 7 days before the Japanese attack on Pearl Harbor.

On 9 March 1942 the Army formed three overall commands—Army Ground Forces (AFG) under LTG Lesley J. McNair, Army Air Force (AAF) under GEN Henry H. ("Hap") Arnold, and Service of Supply (SOS) under LTG Brehon B. Somervell. During much of 1941 Reybold, as G-4, had exercised supervision over Somervell, chief of Construction. Now Somervell was Reybold's supervisor.

The integration of the QMC personnel who chose to remain with the Corps of Engineers was not a serious challenge in the Tulsa District although it created problems at some other places. However, the local level did feel the effect of some changes brought about at high level after creation of the SOS.

LTC John T. O'Brien, formerly chief of the Real Estate Branch in the office of the Quartermaster General, who had remained in the comparable position at OCE, announced in June 1942 that he was taking real estate acquisition out of district hands. Shortly he placed "all real estate activities, civil and military," under jurisdiction of division engineers. By 14 August, after getting a reaction from the field, O'Brien instructed division engineers to organize the district real estate sections as division suboffices in the same cities. Resistance subsided. Tulsa and Denison Districts complied.

The nine corps areas came under Somervell's command in the Army reorganization of March 1942, but their role was not defined. On 22 July Somervell changed the name from corps areas to service commands and gave them direct responsibility for "supply, personnel, administrative, and other service functions." To say the least, there was consternation within the Corps of Engineers with its accustomed geographic districts and divisions and chain of command from district through division to Office of the Chief. Now its personnel were part of an additional superimposed organizational structure. On 10 August Somervell promulgated an order requiring the nine division engineers to report to the commanding officers of their respective service commands for duty as directors of real estate and repairs and utilities. In this capacity they would operate outside Engineer channels under the jurisdiction of the service commander. The geographic boundaries varied widely from those of their engineer divisions.

Since General Somervell was unyielding, General Reybold in late October 1942 announced a realigning of engineer divisions in an attempt to retain the essential features of the Corps' permanent organization for civil works. Nine of the eleven engineer divisions would have both military and civil functions. For their usual navigation and flood control work, major watersheds would be the basis for their boundaries. For war construction, real es-

tate, and repairs and utilities their boundaries followed those of the service commands. No changes were made in the boundaries of the two Mississippi Valley Divisions, and they had only civil functions. At times the presence of an area engineer from the service command in charge of a project weakened the line of command. Nevertheless, the arrangement worked.

During World War II the boundaries of districts for military construction often did not conform to their civil works boundaries, and it has been true since. The Tulsa District illustrates this well. At the time of Reybold's reorganization in October 1942 the Tulsa District was well along on airfield construction projects in southern Kansas, and these projects were transferred to the Kansas City District because the Oklahoma-Kansas line formed a portion of the boundary between the Seventh and Eighth Service Commands, the latter being also the Southwestern Division. There was a time after the war when the Tulsa District did military construction in Arkansas and Louisiana. After 1961, military construction within the Tulsa District was, of course, the function of other districts. In the war years the Denison District did major military building in the Fort Worth area which certainly was outside the Red River watershed. When the capability exists in one place and the job to be done is in another, the Corps looks for a way to put them together.

In November 1940 the Tulsa District was ordered to proceed with construction of several small airfields for the Civil Aeronautics Administration, but its first major project was the Tulsa Aircraft Assembly Plant No. 3, authorized 4 January 1941. Construction began 2 May 1941, and the facility was completed 30 September 1942. The plant, operated by Douglas Aircraft Corporation, produced its first heavy bomber, the B-24 or Liberator, on 15 August 1942, as construction neared completion. In addition to the main manufacturing building, 320 feet wide and 4,000 feet long, an airfield covering 750 acres and adjoining the Tulsa Municipal Airport was also constructed under Corps supervision. The initial cost of the plant and auxiliary buildings was over $27 million. The city of Tulsa provided the land after other sites in the area had been eliminated.

Another project of similar proportions was Tinker Field, an Air Force Base at Oklahoma City, on which construction began on 7 July 1941, exactly 1 month after it was authorized, and cost initially nearly $29 million. At first named Midwest Air Depot, then Oklahoma City Air Depot, the project finally became Tinker Field.

The Oklahoma Aircraft Assembly Plant No. 5 at Oklahoma City which cost nearly $42 million was built in the 12 months following the start of construction on 24 March 1942 to fabricate and assemble C-47 transport planes. The plant's design capacity was 208 planes per month.

The one huge cantonment, whose construction was supervised by the Tulsa District, was Camp Gruber, 15 miles southeast of Muskogee, and occupying over 25,000 acres of the nearly 66,000-acre "Cookson Hills Land Rehabilitation and Utilization Project" of the Soil Conservation Service. Total cost of the more than 2,200 buildings and structures and other improvements was in excess of $36 million. During its period of maximum usage, between 45 and 50 thousand men were in training there at a time. Camp Gruber was originally a Quartermaster Corps project on which construction had not yet begun when Congress transferred construction responsibility to the Engineers.[3]

The largest single military construction project, in terms of cost, within the Tulsa District and also its only ordnance installation was the Oklahoma Ordnance Works, located between the towns of Chouteau and Pryor and about 46 miles east of Tulsa. The contractor, I. E. du Pont de Nemours and Company, built the plant to manufacture smokeless powder, diphenylamine, tetryl, TNT blocks, and TNT flares. Construction, costing initially in excess of $60 million extended over more than 2 years, 20 September 1941 to 30 November 1943. The QMC working with the Army Ordnance Corps supervised the project until 1 January 1942 when it was transferred to the Corps of Engineers. LTC I. F. Bennett was appointed to serve as area engineer in charge, and 10 other officers of the Corps of Engineers were designated as assistant area engineers. The Engineer staff was also a part of the organizational structure of the Tulsa District. The Tulsa District Engineer was required to keep in communication with the area engineer and in a sense was responsible for the project. This arrangement presented no insurmountable problems.[4]

[3] Parker, "History," various pages; *Tulsa World,* 22 Aug 43; *Tulsa Tribune,* 24 Jul 74.

[4] Parker, "History," pp. 187-96; Interv, COL Francis J. Wilson, 1 May 74; FONECON, Walter S. Schuler, 17 Jul 74.

The construction operations in the District ran the gamut of Army activities in this interior region as that service utilized the resources for production and procurement of materials, training of service personnel, and transportation. Five flying schools in Kansas (Winfield, Independence, Pratt, Liberal, and Coffeyville) were either completed or nearly so when transferred to the Kansas City District in 1942. Municipal airports were worked into the military transportation and training system, and improvements made costing millions of dollars. These included Enid, Oklahoma City (Will Rogers Field), and Tulsa, Oklahoma, and Joplin, Missouri. Other installations included: a school for glider pilots at Dalhart, Texas; the Pampa, Texas, Air Force School for advanced pilots of twin engine aircraft; the Army Flying School at Enid, Oklahoma, which became Vance Air Force Base, with its operational training unit at Perry, Oklahoma; a ground air support command base; a bombing range on the Great Salt Plains; Glennan General Hospital at Okmulgee, Oklahoma; Davis Army Air Field at Muskogee, Oklahoma; Woodward Army Air Field; Woodring Field at Enid; and numerous landing fields, usually auxiliary to larger ones. Several prisoner-of-war camps were in and built by the Tulsa District.[5]

If the record-breaking construction achievement of the Corps of Engineers within the United States during World War II can be defined and identified, it seems to have occurred in the Tulsa District on two projects simultaneously; and, of all times, it coincided in part with that disastrous 1943 flood on the Grand and Arkansas Rivers. The projects were bomber modification centers at Oklahoma City and Tulsa, each of which cost approximately $5 million. The directives to build, carrying "immediate" completion dates, reached Colonel Wilson in late April. Within 24 hours architect-engineering contracts were signed with two Saint Louis firms for the Tulsa center and with a Cleveland, Ohio, firm for the one in Oklahoma City. Before the month ended, grading had begun and materials were on order, and by late May the principal contractors, a local firm of Charles M. Dunning at Oklahoma City and the Corbetta Company of New York at Tulsa, were working. Both were among the most competent in the business. The Corbetta Company had a national reputation, and both had enjoyed profitable contracts for military construction. Corbetta Company had been the principal contractor on the huge Naval Munitions Depot at McAlester, Oklahoma. The two firms now became reckless—that is, they disregarded their profits and, while quality was not sacrificed, speed of construction became the objective. Their construction approaches differed; Corbetta erected free-standing concrete columns and installed the roof steel immediately while Dunning let the roof steel wait until the concrete center portion of the building was completed. It often was hard to tell which builder was ahead of the other, but Corbetta finished the Tulsa plant first, barely. As the sun set on 31 July a squadron of heavy bombers landed at the airport beside the Tulsa center and the next morning the first plane was towed into the building. In less than 100 days, both companies completed construction that normally would have required a year.[6]

Considerably less sensational than rapid building construction, but no less important to winning the war, was the assistance the District rendered in procurement of supplies for the military services. "Military supply contracts" negotiated by the Tulsa District totaled more than $12 million. In another category, the contracts or purchase orders for which the "Tulsa District Engineer or his assistants were designated as Contracting Officer" amounted to almost $44 million. In addition, the Tulsa District, as the "Inspection, Expediting and Shipping Office" assisted engineer districts, divisions, suboffices, and agencies in purchasing supplies in the amount of about $48 million. Thus the Tulsa District, in effect, procured for the military effort over $100 million worth of supplies. The range of items was fantastic. It included: wrenches, tire gauges, steel, snatch blocks, pumps, gaskets, crane parts, generator nuts, tractor parts, loading stations, pump units, dynamite, drilling units, caterpillar parts, tanks, stoves, grease guns, refrigerator units, water cans, boilers, bows and arrows, brick houses, piston rings, sandbags, brooms, wire rope, nitrogen, piling, U-bolts, and perhaps a thousand other things.

[5] Parker, "History," pp. 100-289, passim, includes information on most of these projects. Numerous newspaper articles and conversations with past and present Corps of Engineers personnel form the basis for inclusion of any not considered by Parker.

[6] MG Thomas M. Robins, "Two Modification Centers Requested Immediately," *Civil Engineering*, Nov 43, pp. 529-32, cited in Fine and Remington, *Construction in the United States*, pp. 596-97; Interv, COL Francis J. Wilson, 1 May 74; Parker, "History," pp. 185-86, 239-40.

Denison District's military construction story is similar to Tulsa's. It made an enviable record and, in fact, at the time of the District's merger, had completed possibly $50 million more construction than Tulsa. On the day that the Manhattan Construction Company of Muskogee and Long Construction Company of Tulsa were awarded the first contracts for the Tulsa bomber plant, in March 1941, the Austin Company of Cleveland, Ohio, was contracted to build a bomber assembly plant at Fort Worth. When MG G. C. Brant broke ground there in April 1941, he mused, "We're digging Hitler's grave today." The construction, for which the Denison District was responsible, was completed 100 days ahead of schedule, and by November 1942 B-24, or Liberator, bombers built there by Consolidated Aircraft were in use. One of the first, bearing the name "Gulliver," carried Wendell Willkie on a globe-encircling mission for the President who had defeated him in 1940.

Sheppard Field at Wichita Falls, Texas, was designed by and built under supervision of the Denison District. The construction workers were plagued with 100-degree weather and rains that made a quagmire of the site, but they had it ready on 29 September 1941 for the first contingent of students in the remarkably brief period of 105 days. Six months after construction began it was handling its capacity of 26,000 aviation mechanic trainees.

Another instance of early involvement of Denison in military building was at first called the Grayson County Basic Flying School before it was named Perrin Field in January 1942. The first dirt was turned on 5 June 1941 and the school was ready for its initial class 8 days after the Japanese attack on Pearl Harbor on 7 December.

As these three building assignments were being accomplished, the Denison District was almost overwhelmed by the workload that was given to it. A partial listing of the installations does not adequately indicate the hard work, the technical know-how, and the managerial ability that went into the District's success.

Three huge cantonments were built outright—Camp Fannin at Tyler, Camp Howze at Gainesville, and Camp Maxey at Paris. The QMC had begun the planning for Camp Maxey. Expansion of Fort Sill, an artillery school at Lawton, Oklahoma, amounted virtually to building a new cantonment there. General hospitals were built at Greenville, McKinney, and Longview in Texas, and at Chickasha in Oklahoma. Besides Sheppard and Perrin Fields, other training bases and/or landing fields were built at Fort Worth (called Tarrant then, and now Carswell), Grand Prairie, Childress, Greenville, Tyler, and Amarillo in Texas, and at Ardmore, Altus, and Frederick in Oklahoma. Love Field at Dallas was expanded and improved. Five arsenals—Red River and Lone Star near Texarkana, Longhorn near Marshall, Pantex at Amarillo, and Cactus at Dumas—constituted a major part of the District's construction. Numerous auxiliary airfields and three prisoner of war camps were also built. On 6 May 1943 COL W. W. Wanamaker, Denison DE, announced that his District had completed 90 percent of its $380 million construction program.[7]

COL Francis J. Wilson on 22 August 1943 revealed that approximately $312 million had been spent for military construction in the Tulsa District. It seems probable that by the end of calendar year 1943 the military construction in the two districts totaled $700 million. By the end of 1943 the major building program was completed. After the war, when figures were given out by the Corps in Tulsa, no distinction was made between the two districts, and the following statement was the standard one: "During World War II the Tulsa District placed $800 million in military construction and procured special engineering equipment costing more than $100 million.[8] There is no reason to consider this an excessive approximation. It is difficult to know what figure to compare this amount with to determine the proportion of the total Army construction load carried by the combined districts. In August 1942 the SWD Enginer, COL Stanley L. Scott, said SWD was carrying more than one-fifth of the total Army construction in the United States. SWD then included the states of Louisiana, Arkansas, Oklahoma, Texas, and New Mexico. The total Army construction in the continental United States

[7] *Denison Herald,* various dates. A list of military construction projects of the Denison District in the approximate order of their beginnings compiled for the writer by Howard A. Wesner has been very helpful in this portion of the present chapter. Interv, Ira E. Williams, 1 Feb 73.

[8] "Tulsa District 25 Years Old," [press release] prepared 2 Jun 64, Locke L. Mouton, Technical Liaison Office, Corps of Engineers, Tulsa, Oklahoma.

from 1 July 1940 to 31 August 1945, excluding approximately $3 billion for real estate and maintenance, was $15.3 billion; but this included $2 billion for the Manhattan District which developed the atomic bomb and $0.8 billion for civil works. If one eliminates the two latter items and compares $800 million to $15.5 billion ($12.5 billion plus $3 billion for real estate and maintenance), he finds that the Tulsa and Denison Districts should be credited with approximately 5.5 percent of the total Army construction. The Corps of Engineers placed emergency contracts with architect-engineers and constructors totaling $8.5 billion between December 1941 and August 1945. The portion of this total handled by the Tulsa and Denison Districts could well have been as high as 8 percent. Perhaps this loose calculating is not as good as a guess, but either method points to a significant contribution.[9]

This noncritical discussion is not intended to imply near perfection or that everything went off without a hitch. Engineers and workers with diverse skills had to be recruited and absorbed into the Engineer's organizational structure, eliminated if they did not fit, and most of them gradually released from employment as their tasks were completed. The Tulsa District had grown to 499 employees by the last day of 1940, 3 months later the number was 602, and on 30 June 1941 the total had reached 800. The highest number on a quarterly reporting date was 2,691 on 30 June 1942. By 31 December 1943 the figure was down to 1,518, and it stood at 831 on 31 March 1945, the day before the two districts merged. Denison District employment declined from slightly over 5,200 in July 1942 to approximately 875 a few days before the merger.

A practice by which key personnel were retained was commissioning them as officers in the Army. Some had previous military experience in regular service or National Guard. Others did not. On 30 September 1942 there were 51 Army officers on the Tulsa District staff, including many who would be among the most able civilians in the District organization during the next three decades.[10]

The more than 7,500 Corps personnel in the two districts at highest count were only a small portion of the total number of persons involved. The experienced nucleus of civil and military personnel and their new recruits had the assistance of engineering, architectural, and other technical services which were contracted. Major construction contractors and a multitude of subcontractors and suppliers and their thousands of employees all joined to work the near miracle without which the war could not have been won.

The acquisition of real estate was not a function of the districts after 14 August 1942 when division engineers were directed to take over district real estate sections and organize them as Division suboffices. As noted in the preceding chapter, CPT James Lee Hogue, Jr., headed this Division suboffice at Denison after 15 December 1942. At Tulsa MAJ Jerra Wilcox was in charge of the suboffice until Hogue was transferred to Tulsa in April 1945. The Division suboffice under Hogue's administration continued until October 1947 when the function was returned to the districts, and Hogue became head of the Tulsa District Real Estate Division. Delay in acquiring land for a war project was not acceptable, and the Second War Powers Act authorized blanket condemnation action to obtain immediate possession. Where the appraisal price was acceptable to an owner, he could complete the sale and have his tract withdrawn from the condemnation procedure. It should be noted that in the competition for military facilities many counties and cities in the two districts donated sites to the Government for installations.[11]

The Repairs and Utilities (R and U) Branch of the Construction Division of the Corps of Engineers was responsible for the maintenance and repair of new construction as soon as it was completed. By July 1942 commissioned officers designated as "the post engineers" and their small staffs were in charge of this work at approximately 500 Army posts. They were under technical supervision of Division engineers, but R and U did for a time have an operation on North Lewis Avenue in Tulsa at which used materials and equipment were reconditioned for use in maintenance, mainly at Camp Gruber.

General Reybold told of how a minor crisis over a grease trap due to a shortage of materials at an Army messhall resulted in devising a ceramics sub-

[9] *Denison Herald,* 24 Aug 42; Fine and Remington, *Construction in the United States,* p. 562, Appendix.

[10] Parker, "History," pp. 9, 10, 13, 20-22, 39-2; *Denison Herald,* 27 Mar 45.

[11] Ibid., p. 46-1; FONECON, James Lee Hogue, Jr., 16 Jul 74; FONECON, David A. Helms, 14 Jul 74; FONECON, Charles R. Flanery, 16 Jul 74; *Denison Herald,* 1 May 42, 15 Jun 43, 15 Apr 45; *Tulsa Tribune,* 7 Feb 41.

stitute that worked, and from which much of the grease, worth 3 cents a pound, could be salvaged and sold for an estimated $27,000 a year at each 35,000-man Army post. The Chief of Engineers commented, "This is throwing our dirty dishwater in Hitler's face with a vengeance."[12]

Traditionally the Corps of Engineers prefers and uses, if at all possible, fixed-price or lump-sum contracts after competitive bidding, but the time factor made this a luxury that could not always be afforded. The negotiated contract became common, and the cost-plus-a-fixed fee, but not cost-plus-a-percent, had to be used by the Corps in the two districts at times. For the Corps as a whole, 50 percent of emergency construction was done under fixed-price contracts. Legislation in December 1941 that authorized modification and amendment of contracts "without regard to provisions of the law" when such action would "facilitate the prosecution of the war" and the Renegotiation Act of April 1942, permitting recapture of excessive profits, contributed flexibility to these operations. Additionally, decentralization of responsibility for which the Corps is noted served well. General Reybold extended previous practices to empower division engineers to approve negotiated contracts of $5 million or less and district and area engineers to negotiate contracts up to $2 million and $1 million, respectively. Later the upper limit in the two latter instances was increased to $3 million.[13]

When the war ended, uncompleted contracts were canceled under an earlier Contract Settlement Act which gave the Government the right to cancel without payment of anticipated profits or damages. Contractors were entitled to compensation for work completed and their costs on uncompleted work plus a reasonable profit, but the latter amounts had to be established through negotiation. This function kept a large staff of termination auditors, headed by Walter S. Schuler, busy for some 2 years handling the incomplete contracts of the Tulsa District. He was responsible to a divisional office in Chicago covering military supply contracts that had some 12 districts under its jurisdiction. The Tulsa District was the first of these districts to finish its termination negotiations.[14]

The Tulsa District continued to have a responsibility for construction and other functions, including some maintenance, at military installations until 1961. The volume diminished rapidly after World War II ended, but organization charts and lists of District employees by categories and source of remuneration show many of them involved in work at military bases, POW camps, arsenals, and other facilities. They also were engaged in redistribution, storage, and salvaging of materials. Such military construction as was required and maintenance of property not disposed of was, with some exceptions, the duty of the District from the end of the war to the Korean conflict. For instance, at the time of the outbreak of war in Korea the Tulsa District was well along on the construction of the Veterans Administration Hospital at Bonham, Texas. Arkansas and the northern two-thirds of Louisiana had been included in its military construction boundaries.[15] Military construction in the District in 1950 was approximately $1 million while civil works construction totaled $17 million. In a long statement to the press on 27 January 1951 concerning the District's work in 1950 COL Edward G. Herb, District Engineer, commented regarding military work only that the District "is in action on a number of national defense projects."[16]

In 1951 the military workload grew and was significant until 1961 when a reorganization of the Corps of Engineers returned the District to its original status, a civil works District, which it has retained. During the postwar dual-status years, after the retirement of Colonel Wilson on 8 April 1946 to become the Director of the Noble Foundation at Ardmore, Oklahoma, eight men served as District Engineer. Of the eight, the first, COL Claude H. Chorpening, later retired as a major general; and the last, COL Howard W. Penney, who

[12] Reprint of MG Eugene Reybold, "Unity of Command in Army Wartime Construction," *The Constructor,* 19 Jul 42. Reprint is not paged. Interv, Robert M. Sutter, 27 Jun 74, and several earlier conversations.

[13] Fine and Remington, *Construction in the United States,* pp. 571, 579-85. Chap. XVII, "Wartime Contracts," pp. 562-85, is an excellent discussion of the contract practices of the Corps.

[14] FONECON, 17 Jul 74 and Interv, 18 Jul 74, Walter S. Schuler. Mr. Schuler, then 82 years of age, said 7 major contracts and approximately 150 military supply contracts were terminated.

[15] Parker, "History," pp. 39-4 to 39-24; Organization Charts, US Engineer Office, Tulsa, Oklahoma, 1 Jul 45, 8 Apr 46; Organization Charts, Corps of Engineers, Tulsa District, Tulsa, Oklahoma, 1 Jul 47, 1 Jan 49, 1 Jul 50, Jul 51.

[16] *Tulsa Tribune,* 27 Jan 51; "History of the US Army Engineer District, Tulsa," [press release of Technical Liaison Office] 1 Jan 61, p. 4.

**COL C. H. Chorpening**

**COL E. G. Daly**

retired with the rank of lieutenant general, headed the Defense Mapping Service at the time of his retirement. Two of the eight served temporarily as Acting DE's, and the tenure of one was shortened by reassignment which took him to Korea where his particular competence was needed in the fall of 1950.

Colonel Chorpening arrived in Tulsa within 2 months of 30 years from his entry into West Point as a cadet in 1916. His active duty had included assignment with the New Orleans and Fort Peck Districts. The latter lasted 5 years, and for 2 years he directed dam construction with 2,500 men under him; the Government doing the construction with hired labor. Between 1940 and 1943 he had been on duty in the Office of the Chief of Engineers, having had the Research and Development desk the first half of his tour there and the title of Executive Officer of the Supply Division the latter half. Nearly 2 years in the European Theater and 8 months in the Pacific Theater of war intervened between duty in the Office of the Chief and assignment to Tulsa. General Chorpening's impact on the Tulsa District's program did not end when he left Tulsa, for he was Assistant Chief of Engineers, first for Personnel and then for a full tour for Civil Works, until 1954.[17]

COL Edward G. Daly, like Chorpening whom he succeeded in June 1949, had little cause to give attention to military responsibilities of the District, and could concentrate on civil works. After graduation from West Point, Colonel Daly had studied at the University of California where he earned a B.S. degree in Civil Engineering, the Engineer School at Fort Belvoir, and the Armed Forces Staff College at Norfolk, Virginia. He had 4 years as an instructor at West Point, had seen service in Panama in the 1930s, and, after spending the time from 1942 to 1944 with engineer combat troops at camps in the United States, had gone overseas in December 1944 with the 23d Corps. He became Army Engineer at Headquarters 7th Army. Among his other assignments was one in the Pittsburgh District, and

[17] "Abbreviated Biography of Claude Henry Chorpening . . . ." This compilation of biographical information was provided by General Chorpening to the writer.

MAJ L. L. DeNoya

COL E. G. Herb

he was District Engineer of the Charleston District, Charleston, South Carolina, when ordered to Tulsa. Colonel Daly was transferred in October 1950 to the Combat Engineer Team at Fort Campbell, Kentucky, for subsequent duty in Korea.[18]

Colonel Daly's Executive Officer, MAJ Louis J. De Noya, was Acting District Engineer until COL Edward G. Herb reported in December. A native of Fairfax, Oklahoma, and graduate of Oklahoma State University, he had World War II duty in Africa, Italy, and the Philippines. After the war he taught at the Command and General Staff College and served in Officer Training Branch at OCE before coming to the Tulsa District as assistant resident engineer for the Hulah Dam project.[19]

Colonel Herb had an M.S. degree in Civil Engineering from M.I.T. and a Professional Engineering degree from the University of California at Berkeley in addition to his degree from the Military Academy where he had played fullback for 3 years. He had kept his weight within 5 pounds of the 170 he weighed when he graduated in 1933. During World War II he went to Europe with the 101st Airborne Division and served with the Eastern and the Normandy Base Sections and as Section Engineer of the Oise Intermediate Section. His service with the Corps in the United States included the positions of Assistant DE in the Portland and Little Rock Districts. He was commanding officer of the 931st Engineer Aviation Group in Okinawa when assigned to Tulsa. His great ability and tremendous capacity for work served him well during his 2 years and 7 months as Tulsa DE. The Korea-created boom was on, and in that time, it was reported, the District spent about $93 million on military works and slightly over $37 million on civil works. The military projects then and on to 1961 were often more complex technically than anything done in the District during World War II, and varied kinds of engineering were required. On top of this were legal,

[18] "Biography of Colonel Edward G. Daly," on file in PAO Office, Tulsa District.

[19] COL Louis L. DeNoya to William A. Settle, Jr., 27 Sep 74.

COL S. G. Reiff

COL W. J. Himes

accounting, and real estate problems. And yet Colonel Herb does not remember these things now nearly so well as he recalls how good the fishing was.[20]

COL Stanley G. Reiff, Herb's successor, was not a West Point man. His undergraduate degree was earned at the University of Nebraska and his M.S. at M.I.T. After 12 years of private civil engineering experience, he went to work for the Army in 1940 and was commissioned in the Army Reserves in 1942. From 1942 to 1947 he served as Chief of Operations and Executive Officer in the Missouri River Division; he was commissioned in the regular Army in 1946; from 1947 to 1950 he was Engineer Supply Officer with the 8th Army Headquarters in Yokohama, Japan; between 1950 and 1952 he was assistant to General Chorpening at OCE; and immediately before coming to Tulsa had completed the course at the Industrial College of the Armed Forces in Washington. Colonel Reiff's tour of approximately 2½ years at Tulsa ended when he was named the Chief, Public Relations Office in the Office of the Chief of Engineers. In July 1960 he returned to the region as the SWD Engineer.[21]

COL William J. Himes, Reiff's Executive Officer, was Acting DE for 6 months until COL John D. Bristor was assigned to the post. Colonel Himes had an M.S. degree in engineering from Cornell, and his experience with the Corps during the 22 years since his graduation from the Military Academy had included combat service in Europe, duty in Korea and Japan, and a wide variety of construction and troop training assignments in the United States.[22]

[20] COL Ed Herb to William A. Settle, Jr., 26 Jan 74; Don Underwood, "District Engineer to Bid Tulsa Farewell; Record of Achievement Marks Tenure," *Tulsa World,* 10 Jul 53; "Biography of Colonel Edward G. Herb," on file in PAO Office, Tulsa District.

[21] Don Underwood, "New District Engineer Arrives to Begin Duties," *Tulsa World,* 13 Jul 53; *Tulsa Tribune,* 12, 13 Jan 56.

[22] "Colonel William J. Himes," [biography] on file in PAO Office, Tulsa District.

**COL J. D. Bristor**

**COL H. W. Penney**

Colonel Bristor had the distinction of being No. 1 in the 1935 graduating class of 276 cadets at West Point and also of having one of the highest scholastic records ever made by a cadet there. In his first year at the Academy one of his instructors was a young officer named Francis J. Wilson, and the two have remained close friends ever since. His assignments included service in the Central Pacific during World War II, commanding a Combat Engineer Aviation Group in Korea, and District Engineer at Detroit. While not popular with many District employees, his competence was respected, and the manner in which Tulsa and area leaders honored him when he left in July 1959 indicates they appreciated his accomplishments. Senator Kerr called him "one of the most able engineers in the Corps." There is a legend that he is the one Tulsa DE who did not sometimes require an interpreter for engineering data.[23]

COL Howard W. Penney was Tulsa DE from July 1959 to July 1962, and during his tenure, as previously noted, the District's dual function ended. In addition to his B.S. degree from the Military Academy (class of 1940), he had an M.E. degree in Civil Engineering from Texas A & M (1940) and had attended the Command and General Staff College from August 1951 to June 1952. He came to Tulsa directly from 10 months of study at the National War College. His career was quite varied and included 2 years of duty at the Engineer School at Fort Belvoir; active duty with the 8th Army in New Guinea, Philippines, and Japan; Executive Officer of the Albuquerque District; and 3 years with the Supreme Headquarters, Allied Power Europe. In 1950 he reactivated and commanded the 20th Engineer Combat Battalion at Fort Bragg, North Carolina. He also served briefly as Assistant Chief of Civil Works for Flood Control at OCE.

[23] *Stigler* (Oklahoma) *News Sentinel,* 16 Aug 56; *Tulsa Tribune,* 6 Jan 58, 5 Mar 59; Chuck Wheat, "Basin Boosters Pay Glowing Tribute to Departing Engineer Corps Chief," *Tulsa World,* 8 Jul 59; Editorial, "The Colonel and the River," *Tulsa Tribune,* 5 Mar 59.

Colonel Penney brought to Oklahoma memories of living at Lawton as a 15-year-old boy in 1933 when his father worked as superintendent for a construction company building barracks at Fort Sill. As soon as he could schedule a visit to Lawton, he did. There he found a barracks building between right and center on the baseball field where he had played first base; and his best friend on the team, the second baseman, still lived in Lawton and worked at Fort Sill.[24]

This interruption of the story of military construction to look at the backgrounds of the District Engineers gives evidence of the high caliber of men, from Montgomery through Penney, who were sent to head the Tulsa District during the 20-year span covered in this discussion of military construction. It took able men to meet the challenge, and one suspects that some of these DE's and others who followed them rank among the all-time best of the Corps. Those surviving ones who have been questioned on this point say, without exception, that it would have been difficult or impossible to have failed, given the quality of the personnel in the Tulsa District.

By 1 January 1961 the basic organizational structure of the District staff was very much like that of the present, and on the organization chart of 1 January 1961, one finds the names of nearly all of the longtime key employees of the District. A few were gone by this time, and others would have retired, moved, or died by the time another 10 years had passed, but longevity of service has been characteristic of the staff.

The civil works program after World War II became increasingly large as the years passed, but it was uneven, partly due to budgetary consideration related to national defense; yet military and civil works kept the District capability high. On 22 December 1954 the District Office announced that during the calendar period 1 January 1950 to 3 December 1954 contracts awarded for civil and military construction totaled almost $150 million. The military totals by years were: 1950, $1 million; 1951, over $10 million; 1952, over $40 million; 1953, about $28 million; and 1954, above $20 million. These amounts approximate $100 million in round numbers, leaving $50 million for civil works. This military construction is essentially Korean War-related reactivation and mobilization. Real estate acquisitions for both programs are not included in these figures.[25]

No attempt has been made to trace the history of each military installation and munitions plant in the Tulsa District from 1945 to the outbreak of the Korean War. Some had remained operative on a lessened scale, but most had been deactivated and in may instances disposed of. Fort Sill and Tinker Field had not ceased activity. Fort Sill remained an artillery school, but the meaning of artillery expanded with the development of rocketry. Tinker Field is a huge Air Force materiel and maintenance depot, the largest industrial employer in Oklahoma since World War II.

The Tulsa District had rehabilitation projects underway at the Alexandria, Louisiana, Air Force Base in late 1950 which it continued until mid-1951 when the District's military construction and real estate functions in Arkansas and Louisiana were transferred to other districts. In addition to expansions and improvements at Fort Sill and Tinker Field, the District went right to work on reactivation of the Altus, Amarillo, Ardmore, and Vance Air Force Bases, Sheppard Field, Perrin Field, Camp Gruber, and the Lone Star, Longhorn, Red River, and Pantex Arsenals. It also built aircraft warning and control stations in eastern and central Oklahoma. Tinker Field was an Air Defense Station with duplicate centralized control by 1951. Not all of these reactivations were permanent. For instance, reactivation of Camp Gruber was stopped before it was finished. In 1953 the 463d Troop Carrier Wing, flying C-119s, was transferred from Memphis to the reactivated Ardmore Air Force Base and functioned there until 1956 when the base was deactivated again. Perrin Field trained fighter intercepter pilots after its reactivation. The missions of the installations after the Korean War were essentially concerned with defense of the United States in case of attack by bombers, and even though they reflected the growing sophistication of our weaponry, the Intercontinental Ballistic Missile (ICBM) research was making it obsolete. Altus AFB, Amarillo AFB, and Sheppard Field were a part of the dispersal of the Strategic Air Command (SAC). Fort Sill had a large Redstone missile

[24] "Lieutenant General Howard Penney," [biographical information sheets] dated September 1971. TD History File; Interv, LTG Howard W. Penney, 19 Jul 73.

[25] *Tulsa Tribune*, 22 Dec 54.

maintenance facility, and two Redstone battalions were stationed there in 1958. On 22 June 1954 the first troop-served Honest John Rocket was fired there, and that year Fort Sill was also the home of a Corporal Missile battalion. In February 1958 Sheppard Field was designated a prime base for training on the Atlas, Titan, Troy, and Jupiter missiles.[26]

The progression of uses of the Altus Air Force Base is interesting. In 1952 it was activitated as the 63d Troop Carrier Wing flying C-124 Globemasters. In 1953, KC-97 stratofreighter tankers and B-47 stratojets were being used. Talk of another troop carrier wing gave way to the 97th Bomb Wing which stayed until replaced with the 11th Bomb Wing in 1957. By that time B-52s and KC-135 tankers were in use there. In late 1959 "Hound Dog" and "Quail" air-to-surface missiles were being installed on the B-52s. In 1958 it was announced that Clinton-Sherman Air Field, started but not finished in World War II, would be activated for the installation of a Nike missile defensive, to defend Altus and other SAC bases, but this plan was not carried out.

The construction that went along with these activities included barracks, warehouses, underground shelters, chapels, hospitals and other medical facilities, and roads in addition to the simple-to-complex mechanical and technical systems that were required. The airport runways, taxiways, and aprons were among the most costly features. As aircraft became larger, the construction of runways that would withstand their enormous weight landing at high speeds was a real challenge to engineers and required all they knew about materials and foundations.

On 26 December 1959 the Tulsa District Office announced that in the preceding 10 years military construction in the District had cost $235 million. Some of the specifics follow: SAC facilities at the Amarillo AFB, $56.8 million; Sheppard AFB for SAC facilities, $26.5 million; Altus AFB, another SAC base, $40.6 million; Tinker AFB, $36.5 million; Vance AFB, $10.6 million; Ardmore AFB, $13.5 million; Fort Sill, $26 million; Bartlesville Air Station (radar installation), $10.5 million; and Davis Field at Muskogee, $3.1 million. Air National Guard hangers and facilities had been built in Oklahoma City and Tulsa, and Army Reserve Armories had been constructed at Amarillo, Ardmore, Clinton, Tulsa, Texarkana, Lawton, McAlester, Ponca City, Norman, Stillwater, Ada, and Antlers.[27]

As time has passed, memories of how hot the Cold War was for several years have faded, but it was serious enough at the time that even Colonel Penney had a fallout shelter constructed in his backyard in Tulsa.[28] With the proliferation of nuclear weapons, most of the defensive strategy and its means of implementation which were constructed in the Tulsa District in the 1950s have been abandoned. In their place have been substituted the means of intercepting and retaliating against an attack upon the United States by Intercontinental Ballistic Missile.

The Tulsa District just barely became involved in the ICBM program before the District's function was changed. Near the end of January 1960 Senator Kerr, Senator Monroney, and Rep. Toby Morris of Oklahoma made the first public announcement that the Air Force planned a $47 million missile facility at Altus with the capability of launching Atlas ICBMs. The Tulsa District would construct the Altus missile base.

Design was far enough along in the last days of April that the largest single construction contract awarded to that date by the Tulsa District was let to the combined Morrison-Knudson and Hardeman and Associates Companies who had submitted a joint bid of $20,926,500 for the basic contract.[29] Earlier it had been announced that MAJ Carl F. Baswell would be the Resident (Area) Engineer and that Walden J. Evans would be the Deputy Area

[26] FONECON, Calvin G. Bass, Colonel USAF, Ret., 20 Jul 74; Joint Interv, Jack L. Crawford, Walden J. Evans, and Robert M. Sutter, 27 Jun 74 and several conversations with each of them; miscellaneous articles in newspapers from several cities in District; *Lawton* (Oklahoma) *Constitution-Morning Press,* 5 Jan 69, and *Lawton Constitution,* 2 Mar 58, have information on Fort Sill; *Wichita Falls* (Texas) *Record News,* 28 Feb 58, tells of missile training at Sheppard AFB.

[27] *Tulsa Tribune,* 26 Dec 59. Other USAR armories built by the District were at Miami, Bartlesville, Durant, Muskogee, Purcell, Okmulgee, and Chickasha.

[28] Interv, LTG Howard W. Penney, 19 Jul 73.

[29] *Tulsa World,* 27 Jan 60, 26, 29 Apr 60. A contract awarded in May 1971 to San-Ore Gardner (SOG) for $27,603,419 for construction on Kaw Reservoir stands today as the Tulsa District's largest contract award.

Engineer. Ira Williams was Chief, Construction Branch. In practice Evans superintended the construction.[30]

Twelve missile launching pads, or silos, below ground level, at locations varying from 19 to 40 miles from Altus AFB, with an interconnected communication and control system formed the basic part of the project. The land was acquired by the Real Estate Division of the Tulsa District, and in mid-October 1960 condemnation suits were filed against 477 landowners in six large southwest Oklahoma counties. Only 12,879 acres of land were needed to complete the communication links between Altus AFB and the missile sites, but an unusually large number of owners were involved.

The Atlas Missile project must have been the most challenging military construction project ever given to the Tulsa District. To prepare for it, Colonel Penney had District personnel visit other projects where work was being done from which they could learn. The great problem was, he said, concurrency. Design of the missile was proceeding along with construction of the launch facilities, and this required constant modification of plans with resultant reestimation of costs and negotiation of changes in contract with the contractors. The contract called for completion in 1 year, and Colonel Penney gave it top priority through the "red ball system" he devised. Every piece of paper that came into the District that related to the Altus project was stamped with a red ball, hand-carried from person-to-person, and placed always at the top of the work pile. Penney spent an average of 3 days a week at Altus and usually in the plane with him on the trips were E. A. Cornell, chief of the Construction Division; Frank Connole, chief of the Estimating Branch in the Engineering Division; and M. E. Schmidt, the District Counsel. Colonel Penney praised construction company personnel for the manner in which they worked with him and his staff, especially when change orders resulted in their getting behind schedule and he gave an acceleration order, which he rescinded when the project was back on schedule.

In the sixth month of the work, the Tulsa District's construction responsibility was transferred to the Corps of Engineers Ballistic Missile Construction Office (CEBMCO) in Los Angeles. Rationale for centralization of missile construction was the need to get missile base construction on schedule throughout the country, but this project was not one of those behind. CEBMCO, established on 1 August 1960, took over the Altus project in mid-September, except real estate acquisition which continued to be handled by Tulsa's Real Estate Division until 1 January 1962. Approximately 175 Tulsa District employees who were working on the Altus project transferred to CEBMCO. Walden Evans and others continued their responsibilities on the project. He stayed in missile construction until 1966 when he returned to the Tulsa District.

The number of employees on each 1 January assigned to military functions from 1951 to 1960 varied, but it averaged 150 and the total number of employees averaged 954 over the 10-year period. Thus about 16 percent of the District employees were concerned with military construction. Personnel figures show also that Engineering and Construction Divisions were carrying a heavy military construction load.[31]

In the first half of 1961 there was a nationwide organizational adjustment of the Corps of Engineers to increase its efficiency and to reduce personnel. Military work of 42 districts was consolidated into 17 districts. Most of the Tulsa District employees involved in military functions were transferred to the Fort Worth or Albuquerque Districts. Two succinct paragraphs from a long letter of explanation to Sen. Robert S. Kerr from MG Robert J. Fleming, Jr., SWD Engineer, of 30 March 1961, both tell and foretell the effect on the Tulsa District:

[30] Ibid., 2 Mar 60; Joint Intervs, Walden J. Evans, Jack L. Crawford, and Robert M. Sutter, 27 Jun 74. Crawford was Project Engineer for construction of one of the silos. The writer has gained much helpful information on military construction in several conversations with Crawford.

[31] "Tulsa District Personnel Strength." This typed sheet is a statistical compilation prepared for the writer by Bill Plemons, then Management Analyst in the Personnel Office.

Beginning about the first of June the Fort Worth District will handle all military construction in Arkansas, Oklahoma, Louisiana, and that part of Texas east of a somewhat irregular line running south from the southwest corner of Oklahoma. The Albuquerque District will handle this type of work west of this line in Texas and in New Mexico.

The expanding civil works program in the Southwestern Division will to a considerable extent compensate for the decline in the military construction program. This is certainly the case in the Tulsa District where the civil works programs for the next few years will be of an unprecedented magnitude.[32]

[32] *Tulsa Tribune,* 31 Mar 61; "Information for Members of Congress" furnished by office, Chief of Legislative Liaison, Department of the Army, Office of Secretary of War, 30 Mar 61; MG Robert J. Fleming, Jr., to Senator Robert S. Kerr, 30 Mar 61. Kerr Papers; Tulsa District Memorandum No. 61-27. Through the years transfers of military functions from the Tulsa District had occurred which have not been detailed in this chapter.

## CHAPTER IX

*Meat's Not Meat 'Till It's in the pan.* [1]

The truth of General Flemings's comment to Senator Kerr that the Tulsa District's "civil works program for the next few years will be of an unprecedented magnitude" was borne out. In the nearly 15 years after authorization of the Arkansas-Verdigris navigation system in 1946 the civil works program of the District experienced its ups and downs, but the overall trend was one of growth and expansion and solid achievement despite the heavy military construction program. This chapter is concerned primarily with the activities of local interests to obtain the funding that made civil works construction possible. The civil works activities from 1946 through 1971 will be the subject of the next two chapters.

The Government's fiscal or budgetary policy, the social and economic philosophy of presidential administrations and majorities in Congress, and the realities of American politics were factors influencing success or failure of specific efforts of supporters of the Corps program. Crises in foreign relations that required expenditures for military preparedness limited expenditures at times.

The Corps of Engineers was committed firmly by 1946 to a program of flood prevention in the Arkansas and Red River Basins through a system of dams on mainstreams and tributaries. A substantial number of dams and local protection projects in the Arkansas River Basin had been authorized; and three dams on Red River tributaries below Dension had been approved by Congress in 1946—Millwood on the Little River, Boswell on Boggy Creek, and Hugo on the Kiamichi River. As survey reports were directed and completed after 1946, the list of authorizations of dams, levees, and floodways grew.

Commitment of the Corps to construction of the navigation system was less certain. The record of the Corps is one of conservatism toward projects considered marginal. In this instance the engineering problems, especially those related to sedimentation, and the close economic feasibility ratio caused some of the experienced heads in the Corps to move slowly toward implementing the authorization. In fact, it was 1956 before the Corps really decided to do it. Not so for the relatively small group of leaders who had opted for the program long before the Corps had acquiesced in it. There was no letdown in their efforts to win support.

Corps of Engineers works have often been opposed by groups who disagree philosophically with the Corps regarding the modifications of the natural environment which are inevitable in controlling streams. These organizations, although sometimes vocal, did not challenge seriously the work of the Tulsa District until near the end of the 1960s.

Many of the projects displaced large numbers of people who frequently offered individual and organized opposition to authorization and construction. They were usually abetted by businessmen outside the area to be inundated who depended upon their patronage, and by others philosophically opposed. The protestors had an impact, for the extent to which political leaders favored, remained neutral, or opposed a project was influenced by the will of their constituents. Solutions which the Corps proposes for problems are not carried out until enough influential people want implementation.

Those dams and local protection projects which were most strongly supported by potential beneficiaries were built before projects with less support. In some instances very formidable opposition was overcome, if not convinced. Local interests sometimes obtained major modifications of plans. The instance of Millwood will be noted later. The substitution of Keystone Dam for the originally approved Mannford, Taft, and Blackburn projects was accomplished in 1950 despite the sometimes bitter opposition of property owners and residents of the area to be inundated and their allies. Both the Corps and Congressional committees listened to the opponents at hearings. Rep. George B. Schwabe of Tulsa who represented the district in which Keystone is located from 1945 to 1949 and again from 1951 to his death on 2 April 1952 supported the opponents. Schwabe's basic conservatism explained his opposition to construction of the multiple-purpose dam, especially the inclusion of

[1] The title of one of Charles M. Russell's interesting paintings (in the Thomas Gilcrease Institute of American History in Tulsa) in which a rugged, hungry-looking man has shot a ram which has fallen to a ledge out of reach above a deep gorge.

**Clarence F. Byrns**

the power feature. Many of Schwabe's staunchest political supporters were as conservative as he, but they favored Keystone. Their influence on him partially neutralized his opposition, and his defeat in the 1948 election removed him from Congress at the crucial time of approval of the project in 1950.[2]

There were some protests against the Eufaula Dam as planned in the 758 Report. Newt Graham and E. E. Zeller, economist for the Oklahoma Planning and Resources Board made a study of other possibilities which resulted in the Board's recommending the substitution of two smaller projects, one near Canadian and the other near Onapa, for the one large one. The argument was made that less good farmland would be removed from use, the problems of relocations would be fewer, and the cost would be less. However, potential power production would be cut in half. Colonel Chorpening had been directed to review the original plan and make a recommendation. He proposed the two dams. MG Lewis A. Pick who succeeded General Wheeler as Chief of Engineers in March 1949 referred Chorpening's report back to the District where COL Edward G. Daly had succeeded Chorpening. Before Colonel Daly made a recommendation, he and the SWD Engineer, COL Louis W. Prentiss, obtained a statement from the Planning and Resources Board that it would support either plan. Colonel Daly in late 1949 went back to the original one-dam plan which was ultimately carried out. He considers this his most important action as DE at Tulsa, and, although politically unpopular at the time, the correct decision.[3]

Obviously Newt Graham continued active for his cause, but by 1949 there had been significant changes with McBride and Kerr. Kerr, ineligible to succeed himself, ended his term as Governor in January 1947. McBride resigned as Director of the Planning and Resources Board in the fall of 1946 to become secretary-manager of the National Reclamation Association in Washington, DC. He remained in close touch with all Oklahoma projects and during the next 2 years arranged schedules for Kerr on his frequent (almost monthly) visits to Washington for conferences with the Secretary or Undersecretary of Interior, Bureau of Reclamation and Soil Conservation Service officials, and the Chief of Engineers. If anything, McBride's ties with Graham were strengthened because the two became more dependent upon each other. Graham cultivated his already very close friendship and working relationship with Clarence F. Byrns, the Fort Smith newspaper editor, whose judgment and ability to make things happen had won Graham's respect long before. Byrns had great influence in northwest Arkansas and in the eastern Oklahoma counties where the Fort Smith papers circulated. Arkansas Governors and members of the Legislature listened to him; and most important, Senators Fulbright and McClellan depended upon Byrns and each of the three trusted the other two explicitly in water resource matters.

Oklahomans elected Robert S. Kerr to the United States Senate in November 1948, and Tulsa

[2] S. Doc. 107, 81st Cong., 1st sess.; 64 stat. 174; numerous items of Schwabe and Graham correspondence in the Schwabe Papers and the ABDA Files, 1946-48.

[3] Elmer Thomas to N. R. Graham, 2 Jul 46; N. R. Graham to Hon. Robert S. Kerr, 2 Aug 46; C. F. Byrns to Newt Graham, 13 Mar 47; N. R. Graham to Hon. Elmer Thomas, 31 Dec 48; MG R. C. Crawford to Hon. Robert S. Kerr, 14 Feb 49; N. R. Graham to Stanley Draper, 23 Feb 49; N. R. Graham to Don McBride, 31 Aug 49; N. R. Graham to Don McBride, 19 Dec 49. ABDA Files; COL Edward G. Daly to William A. Settle, Jr., 25 Jan 74.

leaders then honored him with a dinner at which Newt Graham made one of the laudatory addresses and chided Kerr about his teetotaler habits, with the comment that "he can bubble dry." Graham was reminded of a British officer who visited dry Oklahoma during World War I, and "after a typical long, drawn out dry Oklahoma fix-it-all meeting" could not resist asking, "Tell me, man, how do you Americans get acquainted on water?" Kerr went a long way on water and the issue of water resource development. His campaign slogan had been "Land, Wood and Water," and he often credited Graham with educating him, a credit Newt did not disclaim. Kerr's talk was the highlight of this "peace-making" and "hatchet-burying" 3-hour-long evening. He wanted support for the program on which he had campaigned, but he enjoyed the play of his humor upon leading Republicans and Tulsa. Kerr said Tulsa had always given him "faithful opposition" and "consistent criticism" which "would have been worth more if it had been constructive." He reminisced that he had almost lost his race for Governor 6 years before when "the oil men found out I was a New Dealer, and the New Dealers found out I was an oil man." A *Tulsa World* reporter commented that after the meeting "top bracket leaders from Tulsa's civic, industrial, business and professional groups" who had not spoken to Kerr since he first emerged as a political leader now greeted and shook hands with him.[4]

Don McBride resigned his position with the National Reclamation Association when Kerr became Senator and took employment with the Oklahoma Water Development Association, an Oklahoma City organization, maintaining his office in Kerr's Senate office suite. He worked jointly for this Association and the Senator on the water resource program in Oklahoma, the Senator supplementing his Association salary. Later he went on Kerr's payroll full time.

The first bill Senator Kerr introduced in the Senate (S. 1576, 81st Congress, 1st session) proposed the creation of an interagency commission for the Arkansas-White-Red (AWR) River Basins to formulate a "comprehensive and coordinated plan or plans for the control, conservation, and utilization of the waters . . . for conservation and development of the land resources of such area; for flood control, navigation, reclamation, agriculture purposes, power, recreation, fish and wildlife, . . ." The commission would consist of representatives of the Departments of Agriculture, Interior, and Army, the Federal Power Commission, the eight states of the basins, and a chairman not otherwise connected with the Federal Government, designated by the President. The bill spelled out many details related to the powers and functioning of this commission of 13 members.[5]

The originator of Kerr's proposal may have been Newt Graham. He had been discussing the need for a comprehensive plan for the Arkansas Basin and coordination of the work of state and Federal agencies for nearly 3 years in correspondence. McBride has said that it grew out of the difficulties he and Graham had experienced in attempting to work with representatives of the Soil Conservation Service (SCS), the Bureau of Reclamation (BR), and the Corps due to the petty jealousies among them. Graham and McBride thought that if they could be forced to meet and work together, relations between the agencies could be improved. With assistance from Graham, McBride drafted the bill Kerr introduced.[6]

The measure was cosponsored by the Senators of all the states of the basins except the two from Missouri who, according to Kerr, later declined an invitation to testify against it because, one said, "something might come out of it that will benefit Missouri . . . ." Kerr had sent copies of the bill to the governors of all the states involved, the Chief of Engineers and heads of Departments and other agencies, selected members of Congress, and water resource leaders for their approval and/or comments in advance. He had consulted with President Truman and had his full support.

A duplicate of the bill (H.R. 4331) was introduced concurrently in the House but was not attached to the Flood Control bill (H.R. 5472) which the House passed and sent to the Senate. In the Senate, however, the Kerr bill (S. 1576) with signifi-

[4] Typed copy of speech of N. R. Graham at Kerr dinner, 22 Dec 48. ABDA Files; Cecil Brown "Tulsans, Kerr Bury Hatchet at Big Dinner," *Tulsa World*, 23 Dec 48.

[5] US Congress, Senate, Committee on Public Works, *Flood Control—Rivers and Harbors, Hearings before a Subcommittee of the Committee on Public Works on H.R. 5472*, 81st Cong., 1st sess., 1949, pp. 613-16 (hereafter cited as *Senate Committee Hearings on H.R. 5472*).

[6] N.R. Graham to Clarence Byrns, 4 Feb 47; N.R. Graham to Russell S. Rhodes, 4 Sep 47, 29 Jan 48; N.R. Graham to John D. Mayo et al, 29 Dec 48; "Program of Work for 1949" [for ABDA] dated 8 Dec 48. ABDA Files; McBride Tape.

cant modifications was added as an amendment to H.R. 5472 which was approved by the Senate. In the Conference Committee the modified provisions of Kerr's proposal were deleted and section 205 substituted therefor. Section 205 authorized and directed the Secretary of the Army to cause preliminary examinations and surveys for flood control and allied purposes to be made under the direction of the Chief of Engineers and also authorized and directed the Secretary of Agriculture to cause preliminary examinations and surveys for runoff and waterflow retardation and soil erosion prevention in the three basins:

> with a view to developing comprehensive, integrated plans of improvement for navigation, flood control, domestic and municipal water supplies, reclamation and irrigation, development and utilization of soil, forest and fish and wildlife resources, and other beneficial development and utilization of water resources including such consideration of recreation uses, salinity and sediment control, and pollution abatement as may be provided under Federal policies and procedures, all to be coordinated with the Department of the Interior, the Department of Agriculture, the Federal Power Commission, other appropriate agencies and with the States, as required by existing law . . . .

The so-called Proviso Clause of the section, for which Senator McClellan was largely responsible, said that "Federal projects now constructed and in operation, under construction, authorized for construction, or projects that may be hereafter authorized substantially in accordance with reports currently before or that may hereafter come before the Congress" if in compliance with the Flood Control Act of 22 December 1944 (58 Stat. 887) "shall not be altered, changed, restricted, delayed, retarded, or otherwise impeded or interfered with . . . ."[7] H.R. 5472, as amended, in Conference was enacted and signed by the President.

A major factor causing the Conference Committee to reject Kerr's proposed interagency commission and substitute section 205 was the opposition of the Corps of Engineers and its Chief of Engineers, General Pick, to the arrangement. LTC Herbert C. Gee spoke for the Corps at both the House and Senate committee hearings. To the House Committee on Public Works he recommended that the bill be amended to provide that the Commission's reports be submitted "through those Federal agencies now sponsoring the development of the Nation's water resources, rather than direct to the President and Congress . . . ." Investigation and study of the bill by the Corps was continuing and Gee offered no recommendation regarding passage. Some 6 weeks later Gee read to the Senate Subcommittee on Public Works a statement signed by the Secretary of the Army. The brief statement upheld the existing arrangement for studies and cooperation between agencies and said "the Department of the Army does not favor enactment of S. 1576 in its present form."[8] Senator Kerr, a master of the arts of interrogation and debate, subjected Colonel Gee to merciless questioning, frequently demanding yes-no answers and refusing to let Gee give explanations, with a view to showing the inadequacy of the studies and investigations that had been made or were planned by the Corps of Engineers.

Senator Kerr was not undone by the failure of Congress to enact his plan. He knew too that President Truman was in accord fully with his belief that an interagency organization was the best vehicle for accomplishing these purposes, and that powers lodged in the Presidency could be used to effect a fair and workable compromise.

On 5 May 1950 while H.R. 5472, which had been carried over to 1950 from 1949, was awaiting the President's signature, Senator Kerr wrote to Mr. Truman, reviewing the legislative history of the bill. After commenting that he knew the President favored the commission as proposed in the bill, he said: "Therefore, may I request that an Inter-agency Committee, consistent with H.R. 5472 as passed by the Congress, be set up by you to make the authorized comprehensive survey of the land and water resources of the Arkansas-White and Red River Basins. If you approve . . . I know it would be your purpose that they cooperate in every possible way with the several States specified in the bill . . . . I am

[7] Wallace R. Vawter, "Case Study of the Arkansas-White-Red Basin Inter-Agency Committee," in Commission on Organization of the Executive Branch of the Government, Task Force on Water Resources and Power, *Report on Water Resources and Power,* III (Washington, DC: US Government Printing Office, 1954): 1403-09; Irving K. Fox and Isabel Picken, The *Upstream-Downstream Controversy in the Arkansas-White-Red Basins Survey,* Inter-University Case Program Series: Number 55 (University, Alabama: University of Alabama Press, 1960), pp. 5-7; Robert H. Pealy, *Comprehensive River Basin Planning: The Arkansas-White-Red Basins Inter-Agency Committee Experience,* Michigan Governmental Studies, No. 37 (Ann Arbor: Institute of Public Administration, the University of Michigan, 1949), pp. 8-13.

[8] US Congress, House, Committee on Public Works, *Flood Control Act of 1949 [1950], Hearings before the Committee on Public Works on H.R. 5472,* 81st Cong., 1st sess., 1949, p. 1003; *Senate Committee Hearings on H.R. 5472,* pp. 658-59.

convinced that a Committee such as herein recommended can accomplish most of the results sought." The President informed Kerr in a letter of 18 May of his full approval of the Senator's position, and that he was "instructing the departments and agencies to take action along these lines. . . ."[9]

President Truman informed the Congress in a special message on 22 May that he had signed H.R. 5472, but he expressed his concern about the provision placing responsibility on the Department of the Army for the "development of comprehensive, integrated plans of improvement" of the three river basins, and he asked for corrective legislation. In the absence of that legislation, he would, under existing law, attempt to assure concerted action and effective planning. "I am therefore issuing instructions to the appropriate Federal agencies to work together in preparing comprehensive plans for these basins, insofar as their existing authority permits, and to invite participation by the States concerned."[10]

The instructions of the President were in identical letters of 19 May to the heads of the Department of the Army, Department of Agriculture, Department of the Interior, Federal Power Commission, Federal Security Agency, and Department of Commerce. Officially the Arkansas-White-Red Basins Interagency Committee (AWRBIAC) was created by a resolution of 12 June 1950 adopted by the Federal Interagency River Basins Committee (FIARBC) which had been established voluntarily in 1943 to coordinate water resource activities at the Washington level. The FIARBC resolution provided that the AWRBIAC would consist of one member each from the Departments of the Army, the Interior, Agriculture, and Commerce, the Federal Power Commission, and the Federal Security Agency, and that the Army's representative would be chairman. The Corps of Engineers represented the Army. The US Public Health Service represented the Federal Security Agency which became the Department of Health, Education, and Welfare in 1953. The Department of Labor became a member in 1953, thus increasing the Federal membership from six to seven. The Corps of Engineers was the chairman agency throughout the study.

The resolution provided that the governors of the eight states would be invited to participate in the meetings, but it did not spell out specifically that they or their representatives would be voting members. Distinctions made between member—Federal representatives on the one hand and governors or their designees on the other—indicate that only the members were to vote. State representatives, however, did participate as voting members from the very beginning, and the chairman did not object. On the matter of committee voting the FIARBC resolution said:

> The committee will take action as a committee on those matters wherein there is unanimous agreement. Any question that cannot be resolved by the committee will be referred by the members to their respective members on the Federal Inter-Agency River Basin Committee in Washington for consideration. . . .

In practice then each Federal agency and state had a veto.[11]

At least three comprehensive analyses have been made and published on the work of the AWRBIAC, and another one will not be attempted here. There are some things though that should be noted because of the relation of the AWRBIAC to the Tulsa District and to the developing program of the Corps of Engineers in the area.

The Corps of Engineers designated the SWD Engineer as its representative and he was automatically the chairman. COL Louis W. Prentiss served to May 1952; BG Herbert D. Vogel, June 1952 to August 1954; and COL L. E. Seeman, September 1954 to June 1955. Six Corps of Engineers Districts were involved: New Orleans, Vicksburg, and Memphis in the Lower Mississippi Valley Division; and Little Rock, Albuquerque, and Tulsa in the Southwestern Division. The FIARBC had agreed to make Tulsa the center of AWRBIAC activities, and the Corps established an AWR office located in the Tulsa District quarters, with responsibility for coordinating under the SWD all Corps AWR activities. The Corps AWR office was headed until late August 1952 by COL James B. Lampert whose successor COL John R. Jannarone continued until the work was finished in 1955. Six or seven engineers from the districts made up their staff. Howard Bare and Henry K. Shane of the

[9] Rob't S. Kerr to the President, May 50; Harry Truman to Robert S. Kerr, 18 May 50. Kerr Papers.

[10] *Congressional Record,* 81st Cong., 2d sess., pp. 7470-72; Malvina Stephenson, "Truman May Use Kerr Slogan for 'Politickin'," *Tulsa Tribune,* 25 May 50; *Tulsa Tribune,* 23 May 50.

[11] Vawter, "Case Study of the AWR," p. 411; Fox and Picken, *Upstream-Downstream Controversy,* p. 5; Pealy, *Comprehensive River Planning,* pp. 12-14, 17, 18.

Tulsa District had turns on the AWR office staff. Other agencies established Tulsa offices in the same manner. The state representatives who elected to participate and one representative of each of the principal Federal agencies composed the Tulsa Group, chaired first by Colonel Lampert and after his departure by Colonel Jannarone. Irving Fox who represented the Department of the Interior in the Tulsa Group described its functions: "This group constituted the staff of the AWRBIAC, and in this capacity it prepared the agenda for the Committee meetings, developed staff papers on problems which came before the Committee, and sought to resolve problems which arose between Committee meetings."[12]

An exact measurement of Tulsa District participation in the AWRBIAC has not been established. In addition to responsibility on the AWR office staff, it provided personnel to assist in the actual technical studies and fieldwork which provided the basis of the final report. General Jannarone has pointed out that "primarily because its area of responsibility covered such a large and critical portion of the 3-basin area" it was more deeply involved than the other Corps Districts, and the location of the Corps AWR office in the Tulsa District Office "influenced considerably the relative contribution that District made to the overall planning effort and to the relative degree of general support which it was called upon to provide." Members of the Tulsa District seem to have had a major role in putting the report in its final form. Among the surviving members of the District of that time there is a noticeable affinity for Lampert who retired as a lieutenant general and Jannarone who held the rank of brigadier general at his retirement, and somehow a feeling that their AWR experience in Tulsa contributed something to their later success. Neither of the two would dispute this claim.[13]

Besides a huge file of backup materials, the AWRBIAC produced a multiple-volume report that was finished in 1955 instead of in 1952 as originally intended. It presented a plan for development of the land and water resources of the three river basins, retaining many of the proposals the separate agencies and states offered and rejecting others for various reasons. Volume I of the report is a 172-page summary of the plan, and it constitutes Part I. Part II is titled *Water Resources Project Data* and it is divided into six volumes, each dealing with a subsection of the three basins. Volume I (also Part I) and the six volumes of Section 2 of Part II are printed together as Senate Document 13, 85th Congress, 1st session, 1957. Sixteen remaining sections of Part II are printed separately. At best, the comprehensive plan is preliminary and tentative in nature and is recognized as such by the AWRBIAC. In some instances the Committee made use of existing studies of considerable thoroughness; in others the staffs of the agencies and participating states, functioning both separately and cooperatively, made the investigations. Not all conflicting interests were reconciled but some were.

The three analyses of the AWRBIAC experience mentioned earlier recognize that there were significant successes, and also many failures; but considering the shortcomings in administrative structure and procedures, the absence of a clearly defined purpose in the beginning, inadequate financial support, longstanding rivalries and differing philosophies of the Federal agencies, and other obstacles, about as much was achieved as could have been expected.

The Corps of Engineers' attitude (if there is such) is more optimistic. General Jannarone, upon request, commented on the AWRBIAC's significance as he now views it:

> . . . there is no question that this first attempt at large-scale coordinated inter-agency (and inter-state) basin planning was a significant milestone in the history of land and water resource development. In addition to bringing out into the open many controversial issues stemming from differing traditional policies, standards, and aspirations of the several Federal Agencies and the eight States which were involved, the study provided an impetus toward project formulation, coordination, and implementation which, under normal circumstances, and in the light of then current inter-departmental bickering at the policy level, would probably have been significantly delayed. I believe that the Arkansas River Navigation Project is a good example of this. Discussion of particular aspects of, and problems related to, a particular project, together with its impact upon related projects in a basin or sub-basin—all of which is aimed at resolution of

[12] Pealy, *Comprehensive River Planning*, pp. 1,8-19; BG John R. Jannarone to William A. Settle, Jr., 16 May 74; LTG James B. Lampert to William A. Settle, Jr., 5 Jul 74; Fox and Picken, *Upstream-Downstream Controversy*, pp. 11-13; Interv, Henry K. Shane, 14 May 74.

[13] Jannarone to Settle, 16 May 74; Lampert to Settle, 5 Jul 74; General Lampert who had been superintendent of the US Military Academy, 1963-66, became Vice President, Resource Development at MIT upon his retirement in 1972. General Jannarone, after two tours, totaling 6 years of teaching physics at the Military Academy, served from 1965 to 1973 as Dean of the Academic Board there. Since 1973 he has been a vice president of Consolidated Edison of New York.

differences or at identification of conflicts which cannot be resolved—is a much better route to progress than is the unilateral departmental approach to planning which has traditionally been in vogue.

General Lampert in his solicited statement agreed essentially with General Jannarone. Among his thoughts about AWRBIAC were these:

I think it is fair to say . . . that the Arkansas River navigation project, together with a good deal of other water resources work carried out in the area since the mid-fifties, was significantly aided and pushed along by the study. . . .

I suppose the important significance of the study, in addition to its tangible engineering results, was its milestone place as an early, quite successful, interagency federal-state planning effort. I have been convinced ever since that almost anything can be accomplished by people of good will, who work perseveringly to understand each other and to find solutions instead of obstacles.

Before the AWRBIAC died officially on 30 June 1955 a new AWRBIAC was born through which the Federal agencies with concerns in the three basins and the eight states have continued to work together. In 1954 the FIARBC was reorganized as the Interagency Water Resources Committee (IAWRC) and President Dwight D. Eisenhower on 26 May 1954 approved a new Federal Interagency Agreement in accordance with which the Federal agencies and states concerned established the new Arkansas-White-Red Basins Interagency Committee. Its Charter and its Articles of Organization and Procedure have been amended as higher level coordinating agencies have changed, and its membership has changed with modifications of Federal administrative structure. However, its close identification with the original AWRBIAC is seen in its membership and purposes. It holds several meetings each year, uses standing and ad hoc committees, elects each year a chairman who selects a secretary from his agency, and makes use of a five-member administrative committee. COL Vernon W. Pinkey, Executive Vice President of the ABDA, has simplified the statement of functions of AWRBIAC to these: (1) Coordinates Federal, State, Interstate, local, and nongovernmental plans. (2) Prepares and keeps up to date a comprehensive plan. (3) Recommends priorities for collection and analysis of data and for investigations, planning, and construction of projects. (4) Fosters and undertakes studies (through member organizations). (5) Prepares an annual report.[14]

This discussion, limited to the AWRBIAC, may be misleading because there have been several interagency committees for various areas of the country during and since the years of the first AWRBIAC. The present AWRBIAC is roughly comparable to the River Basin Commissions established under Title II of the Water Resources Planning Act of 1965. The Commissions have a Federal chairman, but the members are salaried by the parent organizations. The chairman does have a permanent office and staff, something AWRBIAC does not have. Some Tulsa District employees are involved each year in the functioning of AWRBIAC. Howard R. Bare, recently retired, had a close association with both the original and the present AWRBIAC as a Tulsa District and SWD employee. His requested appraisal is less enthusiastic than those of Generals Lampert and Jannarone regarding AWRBIAC's significance to the Tulsa District:

As to the importance of AWRBIAC and significant achievements in reference to Tulsa District history, I am compelled to say that it has not been outstanding or particularly relevant to the Tulsa District. This is not to say, however, that it has not been a worthwhile effort, but more oriented to a regional approach that emerged as a basis for these basins and others in the United States.

Thus it may have fulfilled Senator Kerr's hopes.[15]

There is nevertheless a more direct relationship than has been brought out between the first AWRBIAC and the theme of this chapter. Oklahoma's Governor was first represented by Clarence Burch, Chairman of the Planning and Resources Board, but Burch was replaced by Newt Graham at the end of June 1951. Graham served to the beginning of 1955 when the newly elected Governor, Raymond Gary, removed him and returned Burch to the position. Graham arranged for contributions of funds from utility companies to ABDA which could be used to employ COL Francis J. Wilson who had retired from the Corps in 1946 as his AWR engineering consultant.

Graham believed firmly that the Arkansas-Verdigris navigation system was entitled to a better benefit/cost ratio than the Corps of Engineers had

[14] *Charter and Articles of Organization and Procedure, Arkansas-White-Red Basins Inter-Agency Committee,* August 1962 and December 1970; COL Vernon W. Pinkey, "River Basin Organizations." Copy of hand-printed outline was given to the writer by Colonel Pinkey.

[15] Howard R. Bare to William A. Settle, Jr., 12 Aug 74.

given it and that changing economic conditions since the study had improved that ratio. If data were compiled supporting his conclusions, it could be used to bolster the case for raising the original $55,000,000 authorization and obtaining appropriations for construction. In January 1949 he attempted unsuccessfully to obtain such a study.

As soon as the AWRBIAC was established Graham looked to it as the agency which could accomplish the economic review of not only Arkansas-Verdigris navigation, but proposals for extension of navigation through the Eufaula project and some central Oklahoma streams to the Oklahoma City area, an extension of the Arkansas system into Kansas, and navigation of the Red River above Shreveport, Louisiana. He liked the so-called Proviso Clause because as he interpreted it, the AWRBIAC was prohibited from interfering with the already authorized Arkansas-Verdigris plan, but it could add support for it. For a time, however, the widely held interpretation of the Proviso Clause was that it prohibited examining authorized projects in any way. Arkansas-Verdigris navigation was a "do not touch" subject. The Corps of Engineers, with more authorized projects than any of the other Federal agencies, held firmly to this understanding of the clause. Graham, wanting the river study updated, would not agree.

Newt now directed his efforts toward obtaining an interpretation from Senator McClellan. When McClellan did offer his interpretation, he made it clear that he proposed the Proviso Clause to prevent any project authorized or under construction from being delayed until completion of the AWR study. The AWRBIAC could only make recommendations, and there was no reason to circumscribe the scope of its studies. He had not intended to prevent AWRBIAC from examining, evaluating, and making recommendations regarding authorized and planned projects.

The AWRBIAC at a meeting in Joplin, Missouri, on 17 January 1952 adopted an interpretation of the Proviso Clause "that in the preparation of a comprehensive plan, it may be feasible to recommend modification or elimination of a project or projects now authorized to provide greater public benefits." Restudy would be made only if requested by an affected state or Federal agency. By action in November 1952 all projects "authorized for construction or recommended for construction under the provisions of the Flood Control Act of 1944 and authorized prior to completion" of the AWRBIAC report would be considered as part of the overall AWR plan. At an information session on 25 March 1953 a statement was adopted which said "The instructions to be issued by the Tulsa Group will call for the latest available total construction cost to be shown for proviso projects." At any time after the 17 January 1952 action at Joplin, the Corps of Engineers, if it had wanted it, could have obtained through AWRBIAC a restudy of the Arkansas-Verdigris navigation plan. In 1954 Graham wrote that Oklahoma would have welcomed such a study and that it was suggested to Colonel Prentiss while he was SWD Engineer and others of the Corps who advised "leave it alone."[16]

No wonder Newt Graham reacted with disbelief when General Chorpening, his good friend for many years who would soon end his tour as Assistant Chief of Engineers for Civil Works in early January 1954 removed the comprehensive Arkansas River plan from the list of active projects and placed it in the category of "deferred for further study." Events at the Washington level since 1951 led to this action. A resolution adopted by the House Public Works Committee in August 1951 created a special subcommittee to study Federal water project construction policies and procedures. A Civil Works Subcommittee headed by Rep. Robert E. Jones, Jr. of Alabama completed its study with publication of four House committee prints, one of which, No. 21, was titled "The Civil Functions Program of the Corps of Engineers, U.S. Army." The Corps had reported to this Committee that it had a backlog of over 900 authorized projects with an estimated cost of nearly $8 billion which had not been started. This was only about $700,000 less than the total cost of all the civil works projects the Corps had completed or had under construction.[17] Obviously, there was need to determine which of these should be built.

[16] N. R. Graham to Don McBride, 30 , 31 Jan 51; COL Louis W. Prentiss to Hon. Robert S. Kerr, 3 Jul 51. Kerr Papers; N. R. Graham to Sen Robert S. Kerr, 15 Jun 51; N. R. Graham to Hon. Mike Monroney, 7 Jul 52; Eric [Bottoms] to N. R. Graham, 24 Sep 52; N. R. Graham to Don McBride, 5 Nov, 3 Dec 51 with attached undated letter from D. D. Terry to N. R. Graham; [N. R. Graham], typed undated manuscript dealing with AWRBIAC matters (hereafter cited as Graham Manuscript). ABDA Files.

[17] *Congress and the Nation 1945-1964* (Washington, DC: Congressional Quarterly Service, 1965), p. 831; *Annual Report of Chief, 1951*, pt. 1, vol. 3: 6-7. (This part of the *Annual Report of Chief* is a copy of the Committee Print.)

The Office of the Chief was instructed by the Public Works Committees and the Bureau of the Budget to review the entire authorized civil works program to determine which projects were active and appropriate for current construction and which would be considered inactive. When some projects could not be classified definitely in either category the classification "deferred for further study" was created. There were high officials in the Office of the Chief at that time who had doubts about the Arkansas project, but "Corp" (as the friends of General Chorpening called him) today passes the buck to no one, believing the Corps had the responsibility to take another look after 8 to 10 years had gone by before launching the biggest project it had ever undertaken. "Corp" knew too how deeply hurt his friend Newt Graham was.[18]

Suddenly Newt did not want a restudy outside of the AWRBIAC framework. The standards against which feasibility would be judged, especially power features, were much more rigorous now due to Budget Bureau Circular A-47 issued by the Truman administration on 31 December 1952, and by which the Bureau of the Budget now judged projects. Also General Itschner had commented in the May-June 1954 issue of the *Military Engineer* that "Before moving any project from the restudy category to the active category it is proposed to bring it before Congress again for confirmation of the earlier authorization." Graham had no wish to go through that experience again.[19]

Graham decided that the solution to the problem was for the AWRBIAC to do such study of the economic feasibility of the Arkansas plan as it could in the short time left, and to include a favorable recommendation in its final report. He remembered the unanimity rule which had been modified to permit majority votes at levels except Committee level where it still prevailed, and he let it be known that unless consideration of the Arkansas plan was included, Oklahoma would not concur in the AWR Report. He would use his right of veto and there would be no report.

Did Graham mean it? When Don McBride expressed his deep concern, Graham replied, "Confidentially, dont [*sic*] worry too much about my threats. Its [*sic*] having some effect." McBride offered his good friend counsel. He was sure that neither Congressional committees nor the Budget Bureau would do anything about the list submitted by the Corps. "The least that can be said about it, the better," and he hoped that Newt would go on with the AWR work as if nothing had happened "because I think that the net effect of what had been done will be nil." The next step was for the two of them and "Babe" Wilson to have some informal sessions with Corps people in Tulsa, Dallas, and Washington to talk the matter over fully. By the time Graham received Don's letter, General Vogel, SWD Engineer, had already scheduled the first such meeting. It seems Graham did not renounce his threat, but there were meetings throughout the year.[20]

At that time MG Bernard L. Robinson, an old friend of Colonel Wilson from previous service, was Deputy Chief of Engineers for Construction. Graham and Wilson decided to seek an appointment with General Robinson to tell him their story. The General agreed willingly to see them, but Graham became ill and Wilson had to go alone. The top people in Engineering and Economics in the Chief's Office spent an entire morning around a large table discussing the Arkansas River project with General Robinson and Colonel Wilson. The Colonel recalls: "I tried to present our side of the story to the effect that this plan had been authorized. Here was a great report going in, supposed to be the last word, and it didn't even cover this matter. Certainly, in view of the developments in the area, and the fact that this thing had been very conservatively put together in the first place, that before anything like this could go in, they should review this thing and decide."

Colonel Wilson won his point and the Chief of Engineers ordered Eric Bottoms who had been in charge of the economic study in the original report

[18] BG E. C. Itschner to Hon. Robert S. Kerr, 26 Apr 55; BG Herbert D. Vogel to MG S. D. Sturgis, Jr., 2 Feb 54, in Samuel D. Sturgis Papers, Historical Division, OCE, Baltimore, Maryland (hereafter cited as Sturgis Papers); Recorded FONECON, MG Claude H. Chorpening, USA Ret., 6 Mar 64.

[19] Graham Manuscript; C. F. Byrns to Sen. John McClellan, 12 Dec 53. ABDA Files; BG E. C. Itschner, "The Corps of Engineers in Water Resources Development," *The Military Engineer,* 46(May-June 1954): 172.

[20] Interv, COL Francis J. Wilson, 1 May 74; N. R. Graham to Don McBride, 27 Jan, 3 Feb 54; Don McBride to N. R. Graham, 1 Feb 54, ABDA Files; BG Herbert D. Vogel to MG S. D. Sturgis, 2 Feb 54. Sturgis Papers.

to check the merit of the project. In the name of AWRBIAC an economic feasibility study was done, and Newt Graham was pleased, partly because of his great faith in the judgment of Eric Bottoms.[21]

COL L. E. Seeman who had relieved General Vogel as SWD Engineer concluded a long letter of 7 December 1954 to General Sturgis, Chief of Engineers, with this paragraph:

> At a meeting in Tulsa we reviewed the restudy of the Arkansas River Navigation project. People from your office were present and we generally concluded the project should be reinstated in the active category, although its size and nature will undoubtedly preclude appropriations for the navigation portion for some time. However, there is some difference of opinion in our organization with regard to the navigation benefits and the whole multiple-purpose project depends thereon. It seemed to us that its restitution to an active project is necessary due to the comprehensive nature and its relation to other individually authorized projects and in view of the interest of Arkansas and Oklahoma leaders. A letter is in your office to secure the official blessing on the reclassification since we have to discuss these projects in the AWR report and it is close to completion.[22]

Section 4 of Part II of the AWRBIAC report was devoted to navigation. It did consider all of the authorized and proposed navigation projects in the three basins, and it included in the comprehensive plan all of the existing and authorized projects. In addition, it recommended one proposed project for inclusion—a waterway in the Red River Basin from Shreveport, Louisiana, to Lone Star and Jefferson, Texas, and to Texarkana, Arkansas-Texas. It favored the Verdigris route to Catoosa over an Arkansas River route from the mouth of the Verdigris to Tulsa, and noted that several changes in the plan were contemplated. These included deferment of installation of power facilities at Keystone, Oologah, Webbers Falls, and Ozark projects, and use of an alignment known as the North Bank Canal below Pine Bluff.[23]

The date on Colonel Seeman's letter transmitting the final report to the Chief of Engineers is 29 June 1955. Graham had been replaced by Clarence Burch in early January and soon afterward Newt had written to Don McBride, "I am not too proud of the report and am rather pleased that my signature will not be attached."[24] If one could conclude from this discussion that Newt Graham's interest in the AWRBIAC was limited to navigation, that conclusion would be an error. His concern and participation ran the gamut of the issues before the Committee.

The Corps of Engineers never published its restudy, but instead the Chairmen of the two Public Works Committees and the Director of the Bureau of the Budget were informed in long letters that the Arkansas River project, with modifications "should remain authorized as an approved long-range plan for water resource development in the Arkansas Basin. It should no longer be considered as 'deferred for restudy'." The modifications were those included in the AWRBIAC report. Provision for water supply storage in the Keystone and Oologah projects was considered desirable. The letter went on to say that "only those features of the plan . . . justified separately at the present time should be considered as a part of the active program." Construction of other features must wait until "immediate rather than future economic justification can be demonstrated in a re-evaluation report . . . ."[25] General Itschner, Chief of Civil Works, gave essentially the same information to Senator Kerr in a letter dated 26 April 1955 in which he acknowledged receipt of an inquiry from Kerr dated 14 April.[26]

On 11 April Newt had written Don McBride that he might learn from Eric Bottoms "why his recent report on the Economics of Navigation has been held up and if possible where it is." And then he commented, "We must blast it loose if possible." The chronology of these happenings is strange. General Itschner sent the SWD Engineer a copy of the letter to the Chairman of the House Committee

[21] Interv, COL Francis J. Wilson, 1 May 74; N. R. Graham to BG Herbert D. Vogel, 9 Feb 54; N. R. Graham to BG Herbert D. Vogel, 2 Apr 54; BG Herbert D. Vogel to N. R. Graham, 12 Apr 54; N. R. Graham to Don McBride, 15 Nov 54; N. R. Graham to Members, ABDA, 10 May 54; N. R. Graham to Don McBride, 3 Dec 54; "Minutes of Conference Between Corps of Engineers and Local Interests on Arkansas River Navigation Plan, 3 March 1954," "Minutes of Meeting Arkansas River Project Held in Fort Smith, Arkansas, 7 Apr 54," ABDA Files.

[22] In Sturgis Papers.

[23] *Arkansas-White-Red River Basins*, pt. II, sec. 4, *Navigation, Arkansas-White-Red Basins Inter-Agency Committee*, 1955, pp. 8-19 passim, 55-58 passim.

[24] N. R. Graham to Don McBride, 19 Jan 55. ABDA Files.

[25] MG S. D. Sturgis, Jr., to Hon. Charles A. Buckley, 31 Mar 55. NA, RG 77, Entry 800.42(Ark. R.).

[26] In Kerr Papers.

on Public Works from General Sturgis dated 31 March 1955 and a copy of another letter to the Director of the Bureau of the Budget from George H. Roderick, Assistant Secretary of the Army, which had at the top "(Typed 29 March 1955) Signed 7 April 1955." General Itschner's covering letter was dated 19 April, which probably would have been after Kerr's inquiry was received. No record of when the various letters were mailed and received has been found, but it is hard to believe the Committee Chairmen would not have informed Kerr upon receipt of their letters. Newt wrote "Dear Senator Bob" under date of 20 April. His opening sentence: "I thank God that Oklahoma once more has a Senator in a position to and with the ability to exercise great power for good." His closing sentence: "Thanks so much for restoring the Arkansas to the living." Buried in the heart of the letter is the comment that after the restudy was finished "it became lost in the forest of 'higher authority' and was only brought out because the Chairman of the Subcommittee on Civil Functions [Kerr] asked for it. Now I know we will start once more to building the Arkansas River program."[27]

The Corps of Engineers, was only an occasional "thorn in the flesh" to Newt Graham, but there were persistent ones. Elmer T. Peterson, staff writer of the *Oklahoma City Times* and *Daily Oklahoman* and champion of the Soil Conservation Service (SCS) program of upstream watershed development with small dams, has to be numbered as one of these. His unrelenting attacks upon the Corps of Engineers and its large dams on major streams and tributaries went on for years. Graham's psychological makeup permitted him to adjust to Peterson by refusing to take him seriously except in rare times of provocation.

Many observers see no conflict between the SCS and Corps concepts of stream development. To them the programs are complementary, not alternates. Yet substantial efforts extending through the 5 years of the AWRBIAC, to achieve coordination of the two programs in the AWR Basins failed. Irving K. Fox and Isabel Picken demonstrate this point in a case study titled *The Upstream-Downstream Controversy in the Arkansas-White-Red Basins Survey* published in 1960 in the Inter-University Case Program. Both were on the Interior Department staff of AWRBIAC in Tulsa, he for the full 5 years and she for the last 4. Their account of the mechanics of the efforts at coordination is good, but it leaves one feeling they have dealt with only the "tip of the iceberg." The whole truth about personalities, higher-up policy decisions, and inadequacy of funds with which to work is needed to explain the failure.

A paragraph in the Introduction of the Fox and Picken study pinpoints the situation when Elmer Peterson was giving fits to advocates of Corps policy:

> The controversy is difficult to define, partly because the extreme position of some vocal exponents of upstream measures does not represent the view of the main body of supporters of small watershed programs. The extremists, armed with such slogans as "Stop the raindrops where they fall," insist that large reservoirs and major levees are unnecessary for flood control because upstream measures alone can prevent floods. On the other hand, officials of the Department of Agriculture responsible for federal participation in upstream programs agree that such programs have only a minor effect upon large floods. The controversy is clouded further by the continuing efforts of top officials of the Department of the Army and the Department of Agriculture to avoid public conflict between the two departments. Officially, at least, there is no major difference of opinion. Both agencies agree on the essential physical relationships between upstream and downstream measures. Both agree that large projects and small watershed programs are needed for satisfactory flood management. Nevertheless, in spite of official protestations to the contrary, the controversy between the two agencies persists. . . .

The roots of the controversy reach back to the Flood Control Act of 1936 which proclaimed a Federal responsibility for flood control and improvement of waterways. In addition to the powers given the Corps of Engineers, the Department of Agriculture was authorized to conduct the Federal "investigations of watersheds and measures for runoff and waterflow retardation and soil erosion prevention in watersheds." Congress had in a way divided responsibility on an upstream-downstream basis between the Department of Agriculture and the Corps of Engineers for the streams where such a division would be applicable. The Flood Control Act of 1944 authorized the Department of Agriculture through its Soil Conservation Service, created in 1935, to proceed with 11 upstream watershed flood prevention programs. A very im-

[27] N. R. Graham to Don McBride, 11 Apr 55; N. R. Graham to Hon. Robert S. Kerr, 20 Apr 55. ABDA Files; Copy of Itschner's letter and enclosures in NA, RG77, Entry 800.42(Ark. R.).

portant one of these experiments was in the Washita River Basin in Oklahoma.[28] It was this program that had involved the AWRBIAC and also that Elmer Peterson had taken to his heart.

Colonel Daly unintentionally played into Peterson's hands in a public statement in which he applied the term "silt trap" quite honestly to some of the reservoirs. "Silt trap" was a "no, no" at the time.[29] Peterson made the term his own and never ceased to use it.

Peterson looked upon the Corps as a villain and its big dams as worse than worthless. On an occasion when SCS personnel pointed out to him gross factual errors and misunderstandings in his claims, he was reluctuant, however, to correct his statements.[30] For approximately 15 years the *Daily Oklahoman* and *Oklahoma City Times* provided the forum for literally hundreds of his articles. His writings were also published in the *Saturday Evening Post, U.S.A., Oklahoma Farmer Stockman, The Rotarian, Reader's Digest, Country Gentlemen,* and other periodicals. In 1954 he brought together his arguments in a book titled *Big Dam Foolishness* for which Paul B. Sears, Yale University Professor and author of *Deserts on the March,* wrote the introduction.[31]

Peterson's article, also titled "Big Dam Foolishness," in the May 1952 *Country Gentleman* caused quite a stir. It was condensed in *Reader's Digest* of July 1952 and inserted in the *Congressional Record.* The Special Subcommittee to Study Civil Works of the House Committee on Public Works sent General Pick, Chief of Engineers, a set of figures from the article comparing the Corps of Engineers and SCS estimates of costs for a program on the Little Washita subwatershed and with it eight pointed questions to answer. These figures had actually been presented by the Mayor of Chickasha, Oklahoma, at an AWR hearing, but were being used by Peterson as official figures. Seventeen pages of answer and a copy of the article are appended to the request letter from the Committee in the National Archives. The Peterson claims received destructive treatment at the hands of the Corps.[32] Shortly after this, General Chorpening had someone within the Corps prepare a paper (29 tightly spaced pages) titled "The Dam Controversy" answering Peterson's article which was characterized as a "flood of misinformation" but a "somewhat restrained presentation" of Peterson's thesis. Chorpening was secretive, even with Don McBride, in writing about the origin of the paper and its intended use. He did say that it was prepared "in response to a Congressional request for the facts in this matter." He later wrote McBride that the original purpose for which it was written did not materialize and "that there is no need for holding off full use of the pamphlet in order not to scoop the man who made the original request."[33]

One could go on and on with the Peterson story. He was a force with which the Tulsa District reckoned officially by ignoring him. Certainly the Corps of Engineers has its detractors. The implementation of the Corps program inevitably results in clashes of interests on occasion. Even engineers disagree on the technical solutions to problems. Differing, but honest, value judgments produce critics. Still others, like Peterson, are sincere and persuasive, but their claims do not receive the hard look that is required to judge them. Undoubtedly he hurt the cause of the Corps program for water resource development; whether he aided the cause of SCS program is questionable.

The advocates of the Arkansas-Verdigris navigation system were more concerned about the local opposition to Oologah Dam which had been approved by the Flood Control Act of 1938 than they were about Elmer Peterson's criticism of the Corps of Engineers. Protests from people with interests in the area above the proposed dam began

[28] Fox and Picken, *Upstream-Downstream Controversy,* pp. 2, 16; 52 Stat. 1218; 60 Stat. 635.

[29] COL Edward G. Daly to William A. Settle, Jr., 25 Jan 74.

[30] Louis P. Merrill (Regional Director, SCS) to Elmer T. Peterson, 17 Jan 51; Elmer T. Peterson to Louis P. Merrill, 19 Jan 51; H. M. Chambers to Louis P. Merrill, 30 Jan 51; Louis P. Merrill to Don McBride, 5 Feb 51; Don McBride to Louis P. Merrill, 30 Jan 51. Kerr Papers.

[31] Elmer T. Peterson, *Big Dam Foolishness: The Problem of Modern Flood Control and Water Storage* (New York: The Devin-Adair Company, 1954), p. xiv.

[32] Charles D. Curran to LG Lewis A. Pick, 7 May 52; attached answers to questions in letter; copy of Elmer Peterson, "Big Dam Foolishness," from *Country Gentleman,* May 1952. NA, RG 77, Entry 800.92(Arkansas-White-Red Rivers).

[33] "The Dam Controversy," TDHistory File; BG C. H. Chorpening to Don McBride, 3 Sep, 5 Nov 52. Kerr Papers.

before authorization, and in 1955 were still an important force to be dealt with. There is significance in the Oologah story which begins in the mid-1930s and is not yet ended; only highlights will be presented here.

Opponents emphasized three points regarding Oologah. First, the birthplace of Will Rogers would be inundated. Second, the area of productive farmland to be inundated above the dam was too great when compared with the area to be protected in the lower Verdigris Valley. Third, one of Oklahoma's oldest producing oilfields would be made inoperative without adequate compensation to the owners and producers. Only two or three of the oil companies were majors, several were independents, and numerous operators were in the stripper-well category. Recovery was now possible through secondary methods, and use of waterflood prevailed throughout the field.[34] Depletion was approaching for most of the wells except stripper wells which seem to go on endlessly producing a few barrels a day.

The possible loss of large acreages of land from cultivation and of oil production in southern Nowata and northern Rogers Counties caused business leaders, as well as those who would be directly affected, to believe that building the dam would destroy the area's economic base. The town of Nowata seems to have been solidly against construction of the dam, and its leaders spoke for a large part of the population of the county. All the usual legitimate methods of influencing the formation of public policy were used. The Oklahoma Stripper Well Association was a leader. Other organizations were formed. Protest meetings were held; hearings were attended; statements were filed with Congressional committees; conferences were held with Corps of Engineers personnel; and letters, petitions, and other appeals were sent to politicians.

Somehow at least some, and maybe a large portion, of their leadership, concluded that Elmer Thomas, Newt Graham's ally, was going to save them from the fate they feared. On the eve of the election in 1944 when Thomas was a candidate for his fourth term in the Senate, his good friend and Nowata attorney, John F. Pendleton, ran an advertisement in the *Nowata Star* with Thomas' photograph and underneath it the following statement was attributed to the Senator:

> I respect the wishes of the citizens in the Oologah area and so long as I am in the Senate I will not only not favor the construction of the project but will oppose it, and inasmuch as I have control of the money for flood control works I am able to defeat any movement that might be made to construct the dam and reservoir.[35]

No evidence has been found that Thomas repudiated this statement. More than likely it was exactly as he had said it orally or in a letter to Pendleton. Thomas continued to write his constituents in the same vein except that he included an obvious "escape hatch" for himself. To one he wrote on 8 January 1946 " . . . I think I can assure you that this project will not be constructed during my service in the Senate—at least, not until public sentiment changes in that particular area." To another he wrote on 18 April 1946, "I will not undertake to secure funds for this dam until I am convinced the project is wanted. So long as I am in the Senate I will be able to handle the matter, because I am chairman of the subcommittee which handles such bills."[36]

Pendleton was not idle. On 5 April 1946 he wrote Thomas that he had learned by reading the *Tulsa World* "that the Oologah,[37] Dam had again raised its sinister head to threaten our little community," and his letter contained one paragraph of interest:

> Senator, it has always been my contention . . . that the Oologah Dam was conceived in iniquity and born in sin and never seriously contemplated as a flood control measure, but was "thunk up" by certain Tulsa citizens of whom our mutual friend, Newt Graham, was one as a method of forcing down freight rates in Tulsa, and whether or not a mud scow is ever dragged up the dredged Verdigris River to the town of Catoosa, in my opinion, is farthest from their minds . . . .[38]

On 9 March 1948 the *Tulsa Tribune* reported that Senator Thomas would not seek funds for Oologah unless the people living above the dam withdrew their opposition, but on 12 April 1948 he

[34] COL E. G. Herb to N. R. Graham, 20 Jun 53 and attached information regarding Oologah Reservoir. ABDA Files.

[35] John F. Pendleton to Senator Elmer Thomas, 10 Nov 44, with copy of advertisement attached. Thomas Papers.

[36] Elmer Thomas to Lawrence Bettis, 8 Jan 46, and to J. B. Milam, 18 Apr 46. Thomas Papers.

[37] Historians disagree on whether correct spelling is "Oolagah" or "Oologah." The Corps of Engineers uses the "o" spelling. Frosty Troy, "Oologah Creates 'O' ing and 'A' ing," *Tulsa Tribune*, 7 Feb 57.

[38] John F. Pendleton to Hon. Elmer E. Thomas, 5 Apr 46. Thomas Papers.

replied to a constituent who had written opposing the dam: "Personally, I favor construction but would not want to impose the project on the people as long as strong opposition exists to the project. Efforts are now being made to remove objections and if successful the project will be started and completed as soon as possible."[39]

In 1949 Sen. Elmer Thomas took the lead in obtaining a Senate vote for a $550,000 appropriation to start construction of the Oologah Dam. The House voted only $50,000, but Thomas was able to hold $350,000 in the Conference Committee. Senate Committee Report 361 which accompanied the appropriation act stated that the funds could be used only for construction of a flood control dam. By eliminating power and recreation as purposes, the size of the permanent lake had been reduced greatly. Thomas believed that the area in the flood control pool was flooded frequently anyway and the new arrangement should make little difference in the operation of oil wells.[40]

In early 1948 the people in the Verdigris Valley below Oologah began to organize to seek relief from floods. Later in the year a flood destroyed all their crops along the river. Their efforts were then intensified. In late 1948 the Claremore Chamber of Commerce, upon the recommendation of a committee headed by auto dealer and landowner Jack Thurman, unanimously made the Oologah Dam its Number 1 project for 1949, and it worked furiously and in a well-organized and planned manner. From all over the lower Verdigris Valley came letters, telegrams, and petitions to the office of Elmer Thomas. He evidently concluded that Nowata was now the only major point of opposition, and that limiting the project to the one purpose of flood control was a reasonable compromise.[41]

In 1950 Mike Monroney defeated Elmer Thomas for the Democratic nomination for United States Senator, and in the general election was victorious over the Republican nominee, a nationally known Oklahoma City minister. Monroney had kept Newt Graham's nerves on edge since his opposition to the navigation authorization bill in 1946. The ABDA had maintained a nonpartisan stance, but this did not prevent Graham's issuing a long statement to the ABDA members reviewing Monroney's opposition to their program. The statement was soon public property and widely published in the press. Monroney replied but in no way renounced his earlier views. The defeat of Thomas stunned Graham. He wrote to Thomas: "I just cant [*sic*] express myself, nothing in many years has grieved me so much as your loss. You have been so kind and so intelligently helpful to me over so many years I can never repay you."[42]

Senator McClellan now became more important than ever to the leaders and organizations in Oklahoma and Arkansas supporting the comprehensive plan for development of the Arkansas.[43] He was a member of the Senate Committee on Appropriations as Thomas had been, but McClellan had been in the Senate only since 1943 whereas Thomas had first come to that body in 1927 and in 1949 ranked near the top in seniority in the Senate. In later years McClellan took important committee responsibilities in the Senate in other areas, but he never disappointed the river forces in the two states. As Senator Kerr's power grew, McClellan let him assume much of the load; but upon Kerr's death in 1963, McClellan and Ed Edmondson, Representative from Oklahoma's Second District, moved in to fill his place.

Somehow Mike Monroney had to be made a member of the team. In 1952 he showed his independence once again. After a flood in the Missouri-Mississippi River system was especially devastating in eastern Kansas, President Truman asked Congress for additional civil works funds, including $1,500,000 to begin construction on the Oologah Dam for which there had been no appropriation since 1949. Kerr was influential in having the full amount included in the bill recommended by committee. Then during debate Senator Monroney moved to have the $1,500,000 deleted

[39] Elmer Thomas to George I. Frauenberger, 12 Apr 48. Thomas Papers.

[40] *Tulsa Tribune*, 1 Oct 49; COL E. G. Herb to N. R. Graham, 20 Jun 53; Elmer Thomas to N. R. Graham, 10 Oct 49. ABDA Files; N. R. Graham to Hon. Elmer Thomas, 6 Oct 49; Elmer Thomas to John F. Pendleton, 23 May 49. Thomas Papers.

[41] The letters, telegrams, and petitions are in the Thomas Papers.

[42] N. R. Graham to Members of the ABDA, undated; N. R. Graham to Editor, *The Tulsa Tribune*, undated. ABDA Files; *Tulsa World*, 13 May 50; *Tulsa Tribune*, 23 Jun 50; N. R. Graham to Sen. Elmer Thomas, 27 Jul 50. Thomas Papers.

[43] N. R. Graham to Members, ABDA, Confidential Report, 25 Aug 50; N. R. Graham to Clarence Byrns, 20 Jul 51; N. R. Graham to Clarence Byrns, 6 Aug 51; N. R. Graham to Members, ABDA, 15 Jul 52; C. F. Byrns to Sen. John McClellan, 21 Jul 51. ABDA Files.

from the bill. An erudite, nonacrimonious debate between Monroney and Kerr followed in which their differing views of the values and evils of the proposed dam focused the complex issues clearly. Monroney argued that construction first of the four authorized dams on the Verdigris system in Kansas would show the Oologah Dam was unnecessary for flood control, and he argued that inundation of 75,000 acres above the dam at a cost of $33,040,000 would protect 93,000 acres below the dam, thus really gaining protection of only 18,000 acres. He believed the dam was desired mainly for its relation to Arkansas navigation. The oil production complicated the matter. Kerr argued the envisioned protection extended beyond the Verdigris Valley to the Arkansas into which the Verdigris flowed, and he compared the 1943 Arkansas flood statistically with the recent one on the Missouri to prove it. He denied there would be any great loss to oil interests, and he admitted the importance of the project to navigation.[44]

Monroney's amendment was defeated, but in the Conference Committee the $1,500,000 for Oologah, which the House had not included, was deleted. Kerr credited George Schwabe who was now back in the House for the action of the Conference Committee. John Pendleton and fellow townsman Dave Johnson telegraphed Schwabe, saying "Overjoyed at news Oologah deleted from civil functions bill your good help most appreciated." Schwabe had close personal ties with Nowata County, and the strong pro-Oologah sentiment in Tulsa was insufficient to win his support.[45]

The death of Representative Schwabe in 1952 and the loss of two Oklahoma seats in the House of Representatives following the census of 1950 had the effect of adding to the navigation team a Republican member whose services proved invaluable. Page Belcher of Enid was elected to Congress in 1950 from Oklahoma's Eighth District, and in 1952 from the First District which included Tulsa and Pawnee Counties and eight counties from his old Eighth District.

C. A. Border of the Tulsa Chamber of Commerce staff invited Belcher to meet with 12 to 14 members of the Chamber. Belcher remembered the time as December 1952. Border and Colonel Wilson attended. Border has said that Belcher emphasized the need to unite the people. Wilson in 1974 remembered the Congressman said they needed to have 100 percent support from the Oklahoma delegation, meaning Monroney had to be won over. In June 1974 Belcher wrote that in 1951-52 he had received many letters concerning Keystone Lake—Arkansas River navigation with 80 percent against it. Instead of seeking a Republican to run against Monroney as some Tulsa leaders wished, Belcher suggested to them that they should seek the support of Oklahomans by making speeches before "every civic club, every Chamber Forum, and the ladies' groups and garden clubs." If the public were sold, the Oklahoma delegation, including Monroney, would support it. Belcher's advice was taken seriously, and in the next two years 95 percent of the letters he received concerning the navigation project favored it.[46]

Representation of the region in Congress was strengthened from Graham's viewpoint with the election of Andrew F. Schoeppel in 1948 and Frank Carlson in 1950 to the Senate. These two former Republican Governors of Kansas were favorable to river improvement.

In 1955 Senator Kerr became chairman of the Flood Control and Rivers and Harbors Subcommittee of the Senate Public Works Committee. He had obtained membership on the Public Works Committee and the Finance Committee when he entered the Senate. From 1955 until his sudden death in 1963 he was one of the most powerful members the Senate has ever had. Countless analyses of the sources of his power have been made, but only a few factors will be noted here. He had well-established friendships in the Congress when elected to it, and from the beginning he associated himself with the leadership. He was an impressive man, both physically and mentally, and his wealth enabled him to do what he wanted to do and go where he wanted to go. He could entertain and take friends on plane trips when he wished. His capability for friendship was great, and he often was

[44] *Congressional Record,* 82d Cong., 1st sess., (1951-52), pp. 10023-31; *Tulsa World,* 16 Aug 51.

[45] *Tulsa Tribune,* 13, 16, 17, 18 Oct 51; Telegram, Dave Johnson and John Pendleton to George Schwabe, 17 Oct 51; George B. Schwabe to John H. Dunkin, 18 Aug 51. Schwabe Papers.

[46] Page Belcher, "Arkansas River Navigation," a brief paper prepared for writer, June 74; FONECON, C. A. Border, 29 Apr 74; Interv, COL Francis J. Wilson, 1 May 74; Jenk Jones, Jr., "At Work or at Play, Belcher Held Strong Hand," *Tulsa Tribune,* 28 Nov 72.

generous to those he thought worthy. His tactics in debate and committee hearings were effective but they must have left many with bitterness toward him.[47]

In addition to the committees mentioned above, Kerr by 1953 was a member of the Democratic Policy Committee (called Minority Policy Committee 1953-55) and the Joint Committee on Internal Revenue Taxation. In 1957 he was on the Senate Office Building Commission and from 1958 was a member of the Joint Committee on Reduction of Non-essential Federal Expenditures. In 1959 he became a member of the Aeronautical and Space Sciences Committee and its chairman in 1961. In 1960 and 1961 he headed a huge investigation and study as chairman of the Senate Select Committee on National Water Resources.

Kerr's most useful power base was his subcommittee chairmanship on the Public Works Committee. Under Senate rules, this subcommittee chairmanship made him an ex-officio member of the Appropriations Committee with full voting rights and a member of the Appropriations Conference Committee. He was in a position to assist colleagues in obtaining desired appropriations for their states, and thus to put them under obligation to him. As a member of the Democratic Policy Committee he was in the inner circle of the party.

President Truman's overall policy toward the comprehensive plan for the Arkansas Basin is difficult to characterize. In part, this is because too many things prevented his administration from running its normal course if there is such a thing for any administration. Demobilization, transition to a peaceetime economy, a Republican majority in the 80th Congress, the opposition of Democrats to his leadership, the conflicting claims of projects in the many areas of the country for funds, the Korean War, his own proclivity toward TVA-type planning—all these factors influenced policy. Don McBride considers bank stabilization work during the Truman administration in the reach of the river between Fort Smith and Wilson's Rock in Oklahoma, funded on an emergency basis in 1951, as the beginning of construction of the navigation system. It was after several years of appropriations of varying amounts that they were moved from the emergency to permanent bank stabilization category.

The first 2 years of the Eisenhower administration brought an even tighter budgetary policy, adherence to the stricter requirements of Circular A-47, a more favorable attitude toward private power development, and an expectation that beneficiaries of projects at the local and state levels bear more of the costs. Often a "no new starts" philosophy for the country was stated, but inevitably it had some exceptions.

The Truman and Eisenhower administrations to 1955 had not seen the start of the navigation construction, except in the case of bank stabilization, but there had been some planning. Also at least $125,000,000 had been spent by the Tulsa District Corps in FYs 47-55 on authorized river projects. Completed dams included Canton, Fort Gibson, Tenkiller Ferry, Wister, and Fall River.

Historically, the Corps of Engineers was for many years more responsible to the Public Works and Appropriations Committees of the Congress than it was to the executive branch, but more and more with the growth of budgetary planning it became necessary for the Corps, in making recommendations, to stay within the budgetary limitations set by the President through the Bureau of the Budget. Congress, not the Corps, fought with the Bureau of the Budget. Delay in construction of the navigation system was one means of keeping within annual budgetary limitations, but in 1955 and 1956 Congressmen from Oklahoma and Arkansas refused to be bound by budgetary restrictions.

A sort of girding for battle was taking place in the Tulsa area in the last half of 1954 and the first months of 1955. First, leaders of the Tulsa Chamber of Commerce and the ABDA made a hitherto unequaled effort through letters and conferences to win the support of Senator Monroney. Graham stayed in the background. The tactics did not involve threats, but there can be no doubt that had persuasion failed a gigantic effort would have been made in 1956 to unseat him.[48] While the outcome of his

[47] Senator Kerr's effectiveness is discussed in Joe David Cox, "Senator Robert S. Kerr and the Arkansas Navigation Project: A Study in Legislative Leadership" (Ph.D. thesis, University of Oklahoma, 1972), pp. 59-101.

[48] Selected letters which reveal what was happening are: N. R. Graham to Dr. Noel Kaho, 19 Apr 54; George Gates to Hon. Mike Monroney, 4 Jun 54; John H. Dunkin to my dear Jenk [Jenkin Lloyd Jones], 24 Jun 54; Verser Hicks to Sen. Mike Monroney, 15 Oct 54; Gordon Watts to Sen. A. S. Monroney, 3 Jan 55. ABDA Files; Maurice Sanditen to Sen. A. S. Monroney, 14 Mar 55; Russell S. Rhodes to Sen. A. S. Monroney, 9 May 55. Kerr Papers.

strategy was awaited, a second development was in the making—reorganization of the Arkansas Basin Development Association.

The ABDA from the beginning had been loosely organized, centering around Newt Graham who held meetings of the board of directors irregularly and larger meetings less frequently. He reported often in writing to the members and no doubt consulted frequently with selected men on his board.[49] He operated frugally, and there was a strict accounting of funds through Russell S. Rhodes, the treasurer. In 1952, E. Fred Johnson headed the finance committee which obtained pledges of over $30,000 for ABDA operations. Early 1954 witnessed a letdown in the spirit of ABDA for reasons not apparent. It was time for a decision about refinancing and organization.

Newt Graham was not selfish. On 27 October 1953 he confided in a letter to John Dunkin, his friend who hosted the original organizational dinner of the ABDA, "John, I will be 70 years old next month and while I feel fine there is no way to deny that I must sometime turn this work over to a younger man, yet I don't know of such a person." In the next several months Graham was discouraged because he thought he did not have the support the cause merited. John Dunkin tended to agree. On 1 February 1954 Graham mentioned that anyone who took his place, "aside from some engineer such as Colonel Wilson . . . would be lost . . . at least for a while." On 19 November 1954 he pressed upon Dunkin arguments for revitalization of the ABDA by explaining the problems and what he thought should be done about them. Number one was Senator Monroney. He also informed Dunkin he had sufficient income from investments to live without a salary from the ABDA.[50]

Graham went on with the arrangements. The Clearing House Board invited him to return to its payroll. E. Fred Johnson had seen to that. Hence, he was not pushing for a more effective ABDA for his own personal benefit. His mind was made up and he wrote Don McBride:

> I realize . . . that the day of a few people doing this job has passed and especially because of Mike's attitude we must turn from economics to votes. What I want to do is employ someone like Colonel F. J. Wilson to go out and organize the people of Eastern Oklahoma . . . for Oologah, Eufaula and Keystone . . . someone must beat the bushes and Babe Wilson can do that . . . such a group cannot raise money. This must be done quietly in Tulsa. That is why I want the Arkansas Basin Development Association to get re-financed.[51]

The ABDA was reorganized in March 1955. It obtained a charter from the State, and it employed COL Francis J. Wilson, then a practicing professional engineer in Tulsa, as its Executive Vice President. Newt Graham would remain active as chairman of the advisory committee. President Glade Kirkpatrick offered plans titled "- - - -The Next Three Years!" at the meeting of the Board of Directors on 10 March. In it he said, "We must have the entire delegation actively supporting our program." And he repeated that Oologah, Keystone, and Eufaula were the foundation for the future building of the project. Without hesitance he proposed a budget of $100,000 for the next 3 years.[52]

Meanwhile, Monroney was mellowing. At a Claremore meeting on 5 November 1954, he said he favored a delay of 8 years in constructing Oologah to benefit the oil producers and a restudy to include a larger permanent lake for recreation and power production.

On 10 May 1955 Senator Monroney capitulated. The well-laid plans had succeeded. In 1973 Monroney remembered his decision to support Oologah as the result of the addition to the flood control function of the project the very important one of providing storage for future municipal and industrial water supplies for Tulsa and other communities. His letter of 17 May 1955 responding to an expression of thanks from Glade Kirkpatrick included this rationalization: "When Oologah was changed from a single-purpose project for flood control only, and provisions made for water storage for highest priority uses—human consumption and industry—it became one of the best projects of its kind, the kind I am glad to

[49] These included especially John Dunkin, John D. Mayo, Glade Kirkpatrick, A. E. Bradshaw, Russell Rhodes, and Gary Vandever.

[50] N. R. Graham to John H. Dunkin, 27 Oct 53; N. R. Graham to John H. Dunkin, 1 Feb 54; John H. Dunkin to John Mayo, 11 Feb 54; N. R. Graham to John H. Dunkin, 5 Nov 54; N. R. Graham to John H. Dunkin, 19 Nov 54. ABDA Files.

[51] N. R. Graham to Don McBride, 1 Dec 54. ABDA Files; conversations with COL Francis J. Wilson.

[52] Minutes of Meeting of Board of Directors of the Arkansas Basin Development Association, 10 Mar 55; typed copy "- - - - The Next Three Years!" ABDA Files.

support."[53] The contracting for water storage by the city of Tulsa was not a deal cooked up to help Mike Monroney get off the hook. Instead it was the culmination of the vision of Newt Graham and others who years before recognized the relation of adequate water to industrial and community growth. The story of some 6 years of Chamber of Commerce pressure on the officials of city government cannot be told here, but it should be noted as evidence of the good judgment of these men.

There is an interesting sidelight to Monroney's change of mind. As the pressure on Monroney was building and as time was becoming crucial due to pending committee hearings, Don McBride wrote Newt Graham that Senator McClellan had assured Senator Kerr of his 100 percent support for getting the Arkansas program back on the track by securing an appropriation for construction of Oologah. And then Don commented: "Newt, I am almost persuaded that if the right person would sit down and talk to Senator Monroney, without having a crowd, that Mike would still come around to the Oologah project." Graham must have answered the letter as soon as he read it:

> I agree with your "personal views" 100%. My trouble is knowing the right person. I would much rather work with than against Mike. Goodness knows we have enough trouble with the Corps of Engineers without taking on a Senator.
>
> If you or Senator Bob have any suggestions, please let me know in confidence.[54]

On that letter among the Kerr Papers in the handwriting of Don McBride are two names: Joe Jarboe and Clarence Warren. Both were close friends of Monroney and campaign workers for him. McBride must have conveyed the names to Graham by telephone. Jarboe, Monroney's eastern Oklahoma manager and prominent businessman and rancher, was selected. He did see Monroney in Washington and was in communication with him otherwise. He remembered in 1974 that he talked of political realities with Monroney.[55]

On the night of 10 May 1955 Jarboe was at the Tulsa Chamber of Commerce attending a meeting of representatives of area towns planning the presentation they would make on 16 May before the Appropriations Subcommittee on Public Works of the House when he was called from the meeting to receive a telegram from Monroney committing himself to support Oologah. Jarboe returned and read the telegram to the group.[56]

A letter from Russell Rhodes of the Tulsa Chamber informed Senator Kerr of the meeting and of what each witness would emphasize, and he commented, "The master of them all, N. R. Graham, of course, will prepare the comprehensive statement." Turning loose of the reins at the ABDA had not yet removed him from the driver's seat. His statement was reinforced by that of Senator Monroney before the committee, probably equal in eloquence, logic, supporting information, and convincing argument to any ever presented on behalf of the comprehensive plan. But he avoided using the word navigation.[57] Mike had joined the team, and he would be a first stringer from then on.

The budget President Eisenhower presented to Congress in January 1955 for FY 56 had provisions for on-going flood control projects in the District, but there was nothing in it for Oologah, Keystone, or Eufaula. These three were the Oklahoma projects that would be the test of the Government's commitment to the navigation project. During consideration on the House floor, Representative Edmondson offered an amendment which was accepted to add $450,000 each for the Eufaula and Dardanelle Dams. In the Senate, $1,000,000 was inserted in the appropriation bill for Oologah and $450,000 for Keystone through the efforts of Senators Kerr and McClellan. The Conference Committee retained the $1,000,000 for Oologah and $450,000 each for Dardanelle and Eufaula, but cut the Keystone amount to $150,000. The measure as finally enacted also included $4 million for emergency bank stabilization

[53] Letter in ABDA Files.

[54] Don McBride to N. R. Graham, 29 Mar 55; N. R. Graham to Don McBride, 31 Mar 55. Kerr Papers.

[55] FONECON, Joe Jarboe, 29 Jul 74.

[56] Ibid. Russell S. Rhodes to Sen. Robert S. Kerr, 11 May 55. Kerr Papers; Walt Finley, "Oologah Project Nearer with Monroney Backing," *Tulsa World*, 11 May 55.

[57] Russell S. Rhodes to Sen. Robert S. Kerr, 11 May 55. Kerr Papers; "Statement of Sen. A. S. Mike Monroney before the Subcommittee on Public Works, House of Representatives, May 16, 1955." ABDA Files.

on the Arkansas in Oklahoma. President Eisenhower signed the bill on 15 July, but explained he was doing so reluctantly because 107 projects were included which were not recommended or approved by the Bureau of Budget, and he was holding up funds on these projects until he could determine if they were fully planned.[58]

Differences regarding technical aspects of the contract between the city of Tulsa and the Corps for water storage space in the Oologah project delayed the release of funds for awarding of a contract for work there until December. Work on the other three projects by the Corps went slowly, and both the Budget Bureau and the Corps were blamed. There seems to have been no specific impoundment of these funds by the Bureau, but budgetary regulations and insistence by the Corps upon efficient engineering procedures prevented the navigation partisans from seeing results as quickly as they wished. To the latter, Congress had shown clearly that it wanted construction of the navigation system started, and neither the Executive nor the Corps had the right to thwart that will. Senator McClellan commented publicly that the Chief of Engineers had told him that he considered the action of Congress as a mandate to build the project. Leading Republicans from the basin conferred in early December with assistant to the President, Sherman Adams, Republican National Chairman Leonard Hall, and Director of the Budget Rowland Hughes in an effort to assure that adequate funds for these projects would be included in the budget presented to Congress in January.[59]

President Eisenhower's budget message on 16 January was a real disappointment to champions of navigation. He asked for $3 million for Oologah, $3,070,000 for bank stabilization on the Arkansas, and funds for the major local protection projects and dams under construction, but not one cent for Keystone, Eufaula, or Dardanelle. He explained:

> Funds were added by the Congress to the 1956 budget to begin construction on Eufaula Reservoir and Dardanelle lock and dam. This could, in effect, commit the Federal Government to a cost of over $1 billion for the development of the Arkansas River for navigation, since the major benefits from these 2 structures would not be realized until the entire navigation development is completed. I regard the development of the Arkansas River for navigation as not being of sufficiently high priority at this time to justify this large financial commitment. Therefore, I am not requesting funds for continuation of work on these two structures.[60]

The alert Newt Graham quickly wrote Senator Kerr asking if he had noticed the similarity between Eisenhower's statement quoted above and the letter Kerr had "received from the Chief of Engineers sometime ago on the subject." And then he gave advice:

> As I see it, our main trouble is in the office of the Chief of Engineers. Frankly, I don't know how it can be overcome unless the Chairman of the Subcommittee on Public Works for Rivers and Harbors comes to the conclusion that the National economy calls for a close down on new authorizations until more NOW authorized projects are nearer completion. Frankly Bob, I believe it will take drastic action high up to change a policy of shut down on the Arkansas in the Chief's office. . . .
>
> . . . You will recall this stop Eufaula policy was adopted in the Chief's office while Harry Truman was yet in office. This is conclusive proof to me that the problem rests there and not with the President—yet, the Chief will surely be asking large new authorization in New England and for the West Coast.
>
> I would not write this letter to a timid person.[61]

Five days after the date on Graham's letter, Senator Kerr's weekly newsletter accused the Eisenhower administration of playing politics by favoring the northeastern states, where a disastrous flood had occurred in the summer of 1955, over Oklahoma. Then he threatened:

> Unless we can simultaneously secure funds for our projects, I am going to fight every inch of the way the latest maneuver aimed at early construction of 33 new projects in the northeast with ultimate cost of nearly $500 millions, while only $5 million is approved for Oklahoma to continue Oologah Dam and the Oklahoma City floodway.[62]

[58] *Congressional Record,* 84th Cong., 1st sess., pp. 8512-14, 8520; 9877-78, 9882, 10306, 10391, 10434-35, 12723; *Arkansas Basin Development Association Newsletter,* 14 Apr, 6 Jun, 12 Jul, 7 Sep, 18 Oct, 14 Dec 55 (hereafter cited as *ABDA Newsletter* with date); TCC Minutes, 19 Jul 55; COL Francis J. Wilson, "Oklahoma's Future Has Never Looked Brighter," typed copy of speech to TCC, 26 Jul 56. ABDA Files; *Tulsa Tribune,* 17 Jan, 17 Jun 55; *Tulsa World,* 11 Jun, 8 Jul, 24 Sep 55.

[59] *ABDA Newsletter,* 18 Oct, 14 Dec 55.

[60] *Congressional Record,* 84th Cong., 2d sess., (1955-56), p. 581.

[61] N. R. Graham to Hon. Robert S. Kerr, 20 Jan 56. Kerr Papers.

[62] *Tulsa World,* 26 Jan 56; *Tulsa Tribune,* 26 Jan 56.

No doubt Bob Kerr followed Newt Graham's advice, but with methods more subtle and more difficult to document than this first blast.

A comment was made earlier that there was doubt about, even opposition to, the navigation project among high Corps of Engineers personnel. For a time General Sturgis, General Itschner, and Colonel Whipple did not want the Corps to build it.[63] They were together in the Office of the Chief of Engineers for approximately 3 years preceding Whipple's assignment to Europe in 1955. Sturgis was Chief of Engineers, Itschner was Assistant Chief of Engineers for Civil Works, and Whipple was Executive of Civil Works. After Whipple became SWD Engineer later he openly discussed his former objections to the project. When the budget was being prepared which the President presented in January 1956, Sturgis and Itschner had not recommended to the Budget Bureau inclusion of items that involved commitment to the project. But in the last half of 1955 when the new budget was in preparation, they were, as the Ozarker would say, "between a rock and a hard place." That is, they were caught between the Congress and the Bureau of the Budget. The hearings in the spring of 1956 leave no doubt that their total recommendations had to be within a limit the Bureau had imposed upon them.[64] It is hard then to say what their failure to do battle at this time for the project really means about their views in 1955. On 1 October 1956 General Itschner succeeded General Sturgis as Chief of Engineers, and by that time Itschner favored the project. So did the Bureau of the Budget, at least nominally.

The Congressional delegations of Arkansas, Oklahoma, and Kansas were undeterred by opposition, whatever the source, in 1956, and they worked harder than ever before. Myron V. George of Kansas; Carl Albert, Page Belcher, Ed Edmondson, and John Jarman of Oklahoma; James Trimble, Brooks Hays, Oren Harris, and W. F. Norrell of Arkansas were extremely active, as were the Senators from the states. The Bi-State Committee which had been reactivated in 1955 presented its case in the hearings with force. In the end, the controversial projects of Keystone, Eufaula, and Dardanelle received appropriations of $1,500,000, $1,250,000, and $650,000, respectively. The measure included $4 million for Oologah, $3 million for Arkansas River bank stabilization, and adequate funds to keep construction moving along on the Toronto Dam on the Verdigris in Kansas, and local protection projects at Oklahoma City and Wichita. Three Kansas projects—Council Grove and Strawn (later John Redmond) on the Grand (Neosho) and Elk City on the Elk River, a tributary of the Verdigris—received planning funds.[65] Congress had stated its will clearly.

The Eisenhower administration through Sherman Adams had sought ways it could assist Republican Congressmen who might be facing stiff opposition for reelection in 1956. Page Belcher, as one of the very few Republicans from the Southwest in Congress, had been important to the administration. Belcher now asked for help with the Bureau of the Budget on Arkansas River funds. Fred Seaton who later became Secretary of Interior was assigned to assist him. At Seaton's suggestion he wrote a letter to the President about the problem. Seaton also arranged a meeting with Budget Bureau officials on 12 March where the case for the Arkansas was presented. Six weeks later Seaton called Belcher to tell him that Eisenhower would not order the Bureau to spend any money on the river at that time, but that "you would get an appropriation next year. We will just throw the towel in and they can just go along with the Arkansas River." Belcher called Kerr and told him exactly what Seaton had said, and he heard the Senator slap his hand down hard on the desk and say excitedly, "My God, we're in business!" The letter committing the Bureau to budget the river project followed in a few weeks.

On 19 July 1956 Page Belcher was informed by Robert E. Merriam, assistant to the Director of the Bureau of the Budget, that the Bureau would no longer oppose spending of funds on the key Arkansas River projects. Merriam's letter pledged:

> I can assure you . . . that we will be guided by the will of Congress in the scheduling of funds for construction of appropriate features of development.

[63] Interv, B. Joseph Tofani, 18 Jul 73.

[64] US Congress, Senate, Committee on Appropriations, *Public Works Appropriations, 1957,* Hearings before the subcommittee of the Senate Committee on Appropriations, on H.R. 11319, 84th Cong., 2d sess., 1956, pt. 1, pp. 1037-49.

[65] *Congressional Record,* 84th Cong., 2d sess., pp. 2237-47, 2381-84; *Tulsa World,* 17, 18, 25 Jan 56; *Tulsa Tribune,* 17, 24, 25 Jan, 4 Aug 56; *Oklahoma City Times,* 5 Mar 56; *ABDA Newsletter,* 31 Jan, 15 May, 15 Jun, 17 Jul 56.

This means each year the budget will recommend what we consider to be an adequate amount for the efficient rate of construction.

All of this, of course is subject to the broader consideration of world conditions and the possibility of a national emergency.[66]

Things were looking up for Arkansas River navigation. On 1 August Don McBride wrote Colonel Wilson: "Babe, I have never experienced as great a thrill as this session of Congress . . . it seems to me that we almost accomplished almost everything that we could expect. It is not often that you bat 1000%."[67]

McBride expressed his joy too soon, for on 10 August the President vetoed a bill which authorized a $1.6 billion program of flood control and rivers and harbors development. It included eight dams on tributaries of the Red River in southeastern Oklahoma and southwestern Arkansas, a system planned to replace a much larger Millwood project on the Little River near Fulton, Arkansas, with one of reduced capacity there and seven smaller ones, three in Arkansas and four in Oklahoma. Those in Oklahoma were Broken Bow and Sherwood Narrows on the Mountain Fork Creek, Lukfata on Glover Creek, and Pine Creek on the upper Little River. In Arkansas, in addition to Millwood, were the DeQueen, Gillham, and Dierks Dams on the Rolling Fork, Cossatot, and Saline Rivers, respectively.

The bill had involved 99 projects and 14 river basin programs scattered over the Nation. The President said that although the majority of the projects had been adequately studied and reviewed, "there are still a large number which have not been reviewed in accordance with the orderly procedures set forth in the applicable laws."

An irritated Senator Kerr vowed that Congress would reenact the measure in the next session, but it did not. In 1958 Congress did enact essentially the same bill which still contained 18 projects which had not been cleared by the Bureau of the Budget, including the Millwood system on the Little River and tributaries in southeast Oklahoma and southwest Arkansas, and Ike promptly vetoed it again on 15 April. Then Senator Kerr and Sen. Francis Case, Republican of South Dakota, joined in working out a compromise which satisfied the Bureau of the Budget. It left out the Sherwood Narrows project in Oklahoma. The bill was passed and signed by the President. One provision of significance authorized the Corps of Engineers to include water supply benefits in the evaluation of reservoir projects.[68]

Any disappointment over the delay in authorization of the Oklahoma-Arkansas dams was offset by other happenings. No sooner had General Itschner ascended to the position of Chief of Engineers on 1 October 1956 than the ABDA was making plans to honor him appropriately with festivities at the Western Hills Lodge in Sequoyah State Park on Fort Gibson Lake. The 7 September *ABDA Newsletter* noted that General Itschner had promised Senator Kerr that he would push the program as fast as possible. The 2-day meeting was set for 29 and 30 October.

Even the Corps of Engineers rolls with the punches. General Sturgis had been invited by the ABDA to speak at its annual meeting in January 1956. In an urgent note, the Chief of Engineers asked General Itschner, his Director of Civil Works, whether he should do it. Itschner concluded that Sturgis should not discuss in Oklahoma the Arkansas River development until he had testified before a Congressional Committee.[69] On 13 February 1956 General Itschner sent General Sturgis the draft of a statement on the Arkansas River navigation project which he recommended be made before the Appropriations Committees. He wanted the Committees to understand the basis for removal from "deferred for restudy" category "so that they can assume part of the responsibility for accepting highly speculative estimates of future traffic." To protect the Corps in the future, the fact should be in the record "that we have not recommended that this project be constructed at this time." In addition, the "Secretary of the Army, BOB, and the White House expect us to make a statement to supplement the remarks in the President's budget message on the

[66] Page Belcher, "Arkansas River Navigation," (typed statement sent to author, 28 Jun 74); *Tulsa Tribune,* 19 Jul 56.

[67] In Kerr Papers.

[68] *Tulsa Tribune,* 16,21, 25 Apr 58; *Tulsa World,* 28 Feb, 12 Mar, 16 Apr, 28 May, 5 Jul 58; *Oklahoma City Daily Oklahoman,* 5, 6, 25, 26 Jun 58; *ABDA Newsletter,* 26 Mar 58.

[69] Memorandum, S.D.S. to ACE-CW, 22 Nov 55; Civil Works Daily Log, Executive Office, 29 Nov 55, *Arkansas River:* (Itschner). Sturgis Papers.

**Senator Kerr at Keystone Groundbreaking December 1956**

**Keystone Groundbreaking COL Wilson, COL Bristor, GOV Gary, SEN Kerr, REP Belcher**

subject."[70] By 1 October 1956 when General Itschner became Chief of Engineers he no longer felt these pressures.

From Kansas, Arkansas, and Oklahoma, 319 people came to hear the Chief of Engineers. All of the right people, unless otherwise detained as Senator Fulbright was, were there, and they were not disappointed. If the Chief had any doubt that these people were serious about navigation of the Arkansas his doubts were erased. "A Project is an Opportunity" was the title of his talk, a learned discussion of the recreational and water storage potentials of Corps projects such as Fort Gibson and the need for legislation to clarify their status as to purposes. He told of Senator Kerr's leadership in seeking the legislation. Then he turned to the Arkansas River project and problems thereof. He said it was proposed to complete construction in 17 years, or about 1973, contingent upon adequate funding. His conclusion was an eloquent challenge to the leadership and enterprise he saw before him to plan for the exploitation of the potentialities that water resource projects provide.[71]

The *ABDA Newsletter* of 27 November commented that General Itschner had "said all the things we have been waiting to hear for years." The time schedule was noted; 1973 became an established objective only to be moved nearer, not further away; and in time making target date became an obsession with the navigationists.

Senator Kerr wrote the General:

> Your address was, in my opinion, the most important event that has taken place since the authorization of the comprehensive plan of development of the Arkansas River and its tributaries.

[70] Memorandum, Itschner thru General Holle to General Sturgis, 13 Feb 56; "Arkansas River Navigation Project," typed statement dated 8 Feb 56. Sturgis Papers.

[71] Memorandum, Francis J. Wilson to the Executive Committee of the Arkansas Basin Development Association, Inc. Report of Meeting 29, 30 October, Honoring MG E. C. Itschner. ABDA Files; MG E. C. Itschner, "A Project is an opportunity," manuscript of speech. Kerr Papers.

**Keystone Groundbreaking**
**Wilson, Kerr, Kirkpatrick, Graham**

Certainly you demonstrated your qualifications to be Chief of Engineers in the forthright manner in which you called attention to the importance of this great project.[72]

At last Newt Graham knew that the dream which had dominated his life for at least 25 years would come true. On 6 November he submitted his resignation from the Planning and Resources Board to Gov Raymond Gary, giving as a reason his approaching 73d birthday on 24 November. Governor Gary persuaded him to hold up his resignation for a time, and then Graham confided to Don McBride, "while age was the excuse, a belly full of dealing with underdeveloped minds was the real reason." He was deeply concerned about the State's park program and pending water compacts with Kansas and Arkansas. He would stay until the park program was worked out, but he would rather leave the compacts to a younger man. "Kansas is going to be hard to deal with," he said and of Arkansas he commented, "Its [*sic*] a headache and the local boys feel I should steal all the water they want."

On 18 February 1957 Graham appeared before a State Senate committee considering a bill creating a state water board, and afterward obtained from Sen. James Rinehart, the chairman, a commitment that no law would be passed that did not meet with Senator Kerr's approval. Graham had pointed out that more than 100 small towns which lacked adequate credit were looking for a water supply.[73]

After a day in Oklahoma City, the trip probably made by bus, Graham had taken the time to dictate what became his last letter to Don McBride. He died that night.

There is another story in Newt Graham's life which, regretfully, cannot be told here because it is too long. It concerns the battle he waged in defense of the Corps of Engineers whenever it was attacked or when anyone, from the two Hoover Commissions on down, suggested a restructuring of the Government which would remove from the Corps its civil works responsibilities. Other ABDA leaders always joined him. He reserved the right to criticize, but he believed in the Corps of Engineers. It had lost a great friend.

[72] Rob't S. Kerr to GEN E. C. Itschner, 6 Nov 56. Kerr Papers.

[73] N. R. Graham to Don McBride, 7 Nov, 15 Nov 56; 18 Feb 57. ABDA Files.

In 1957 the Bi-State Committee became the Tri-State Committee with the addition of Kansas. For the next several years it was chaired by Clarence Byrns, who had in a sense cochaired the Bi-State Committee with Graham. As in the years before, impressive delegations appeared before Congressional committees, usually asking for more than the budget offered them and perhaps more than they expected to receive. They and their allies in Congress were so successful in 1959 that President Eisenhower, objecting to unapproved "new starts" vetoed the appropriation bill. Due to threats of economic recession the President had been more generous than usual in his requests for civil works appropriations. He objected to a number of new starts, including Council Grove high up on the Grand (Neosho) in Kansas, and Pine Creek and Lukfata in Oklahoma. The veto was sustained by only one vote in the House; Page Belcher voted to sustain, bringing divided opinion on his action within his district and among his colleagues. Eisenhower's record of never having a veto overridden was intact. Kerr and others worked diligently to effect a compromise to meet his objections, and failing in that obtained a new appropriation which left in all the objectionable projects, but provided a 2½ percent cut across the board. Ike promptly vetoed it, and Congress then drew blood by overriding the veto—the first such action in his administration.[74]

Earlier in the year the country was treated to a controversy of comic opera nature. Rep. Clarence Cannon of Missouri, Chairman of the House Appropriations Committee, ordered the Engineers to suspend negotiation of contracts on Eufaula and Dardanelle pending a restudy of economic feasibility. Sen. Allen Ellender of Louisiana, chairman of the Appropriations Subcommittee on Public Works, after questioning representatives of the Corps, ordered them to proceed on schedule. An unruffled Corps waited. It seems that Cannon had concluded that the last published statement by the Corps (1955) had left the navigation project with a benefit/cost ratio of approximately 1.0 to 1.0. Another story soon emerged. In 1955 the Corps had found the estimated annual benefits to be $73 million as compared to 1949 estimates of $40 million but had chosen in 1955 to use the 1949 figure probably because of the Sturgis, Itschner, Whipple attitude at that time. Otherwise the benefit/cost ratio in 1955 would have been 1.5 to 1.0. Cannon relented when confronted with this information. In recounting the events, the *ABDA Newsletter* concluded:

> The Cannon incident . . . should remind us that we cannot take the completion of our project for granted. There will always be critics of big public spending, and properly so. Whenever someone rises to ask a question, we must be ready with the answer.[75]

There have been instances of attempts to prevent the building of dams after the dams were completed. That is almost the case with the navigation system, so persistent have been the critics. As excellent as the prospects looked by 1959 to Senator Kerr and his fellow workers, the Association of American Railroads had not given up.

*An Economic Analysis of the Navigation Proposal for the Arkansas River and Its Tributaries* by Cecil B. Haver (University of Chicago and McGill University), W. B. Back (Oklahoma State University), and L. A. Sjaastad (University of Chicago) was published in late 1959. The study "was made possible by a grant by the Zone 12 Committee on Waterway Projects, Association of American Railroads." A detailed critique of this analysis by three university faculty members would be pointless here. The nature of the findings can be demonstrated by the fact that by one approach the benefit/cost ratio was found to be 0.09 to 1, and by another approach to be 0.17 to 1, neither of which came near Government requirements. At another point the authors said that in light of their findings "it would seem that the Arkansas project is not worthwhile; *that even if it were to be constructed, it would be in the best interests of the economy to leave it unused.*"[76]

Colonel Wilson and other knowledgeable persons critiqued and disagreed with the study. They

[74] *Tulsa World,* 8 Jul, 3, 4 Sep 59; *Tulsa Tribune,* 29 Aug, 2, 10 Sep, 1, 17 Oct 59; McAlester (Oklahoma) *News-Capital,* 19 Jan, 29 Aug 59; *Oklahoma City Daily Oklahoman,* 2, 3 Sep 59; C. F. Byrns, "Off the Record," *Fort Smith Southwest American,* 30 Aug, 3 Sep 59; *ABDA Newsletter,* 28 Jan, 26 Feb, 19 Mar, 20 Apr, 28 May, 14 Jul, 19 Aug, 30 Sep 59.

[75] *ABDA Newsletter,* 20 Apr 59; *Tulsa World,* 19, 24 Mar, 21 Apr 59; C. F. Byrns, "Off the Record," *Fort Smith Southwest American,* 21 Mar 59; "Senator Kerr Says," news release, 26 Mar 59. ABDA Files.

[76] Cecil B. Haver, W. B. Back, and L. A. Sjaastad, *An Economic Analysis of the Navigation Proposal for the Arkansas River and its Territories* (Chicago: Cecil B. Haver and Associates, 1959), pp. i, 49-51, 52.

pointed to one incredible statement it contained: "For purposes of this study the Arkansas River Basin is defined as including only those counties adjacent to the proposed waterway."[77] Time alone will demonstrate whether the waterway is an economically feasible project, but the ABDA presented a railroad owner at its annual meeting in 1960 to answer the railroad opposition. Robert E. Ingersoll of Philadelphia whose family owned three profitable short-line railroads in Oklahoma came and talked of how the railroads would benefit by business generated by the great economic development that would result from the waterway. Senator Kerr sent copies of the speech to numerous people he wanted to hear that point of view. Ingersoll had testified on behalf of the project before a Congressional committee in May 1957. His support had great impact on doubters.[78]

The road from 1946 to 1960 had been unbelievably long, but the question was no longer whether to build the waterway and the other features of the river development. The local interests, not the Corps of Engineers, had answered that. The question now was how to make the target date; it would take both local interests and the Corps to do that.

[77] Ibid., p. 78; *ABDA Newsletter*, 17 Mar 60.

[78] *Tulsa Tribune*, 11 Mar 60.

## CHAPTER X

*The capital cabbie translated "The Past is Prologue" by exclaiming "You ain't seen nothing yet!"* [1]

The years from 1946 to 1971, were years of solid—one might say phenomenal—achievement by the Tulsa District in its civil works program. The McClellan-Kerr Waterway dedicated in 1971 had become operational at the end of 1970. The real beginning of construction of the waterway was after 1955, and the heaviest part of it came in the 1960s; but in the same manner that the District handled military and civil works programs concurrently for 20 years, it kept its other construction, investigation, and planning duties moving on a fast schedule. That is why there were, as noted early in this history, 22 dams and 15 local protection projects, in operation plus numerous studies and many minor achievements to which the District could point at the time of dedication of the waterway. The District projects—completed, under construction, and authorized—are noted on Illustration I.

In the Red River Basin by the end of 1971, the Millwood and Pine Creek Dams on the Little River, Broken Bow Dam on the Mountain Fork River, and Pat Mayse Dam on Sanders Creek were in operation. Broken Bow had two hydroelectric power units with an installed capacity of 100,000 kilowatts. Hugo on the Kiamichi, DeQueen on the Rolling Fork, Gillham on the Cossatot, Dierks on the Saline, Lake Kemp on the Wichita, and Waurika on Beaver Creek were dams at varying stages of construction. In addition, Lukfata on the Glover, Boswell on the Boggy, Big Pine on Big Pine Creek, Clayton on Jack Fork Creek, and Tuskahoma on the Kiamichi were authorized.

The multiple-purpose Waurika project is unique for the Tulsa District in that the Corps of Engineers is constructing the water conveyance facilities for the Waurika Project Master Conservancy District which was established under Oklahoma law. Among the features is a system of pipelines totaling 115 miles in length through which Lawton, Oklahoma, and other municipalities will receive water. The Conservancy District is obligated to reimburse the Corps of Engineers completely, with interest, over a 50-year period.

Significant strides had been made toward taming the Verdigris and its tributaries. The Toronto, Fall River, Elk City, and Hulah Dams had been in operation for some time. Oologah was considered complete although its water was not yet raised to permanent pool level. Copan Dam on the Little Caney and Birch Dam on Birch Creek, a tributary of frequently flooded Bird Creek, were under construction. Sand, Candy, and Skiatook Dams in Oklahoma and Big Hill and Neodesha Dams in Kansas were authorized and when built will alleviate serious flooding situations.

The Arkansas River had its Keystone Dam, and Kaw Dam was being built on the mainstream as was the El Dorado Dam on the Walnut River tributary in Kansas. Interestingly, the El Dorado Dam will form a lake which will inundate two dams and lakes, El Dorado and Blue Stem, which provide the municipal water supply for El Dorado. An agreement has been made by which the estimated cost (presently $4½ million) of comparable facilities will be applied toward future charges for water furnished the city from the new lake. El Dorado will begin paying for water after the amount credited to it has been exhausted. In turn, El Dorado will deed the old properties to the Corps of Engineers. Shidler Dam on the Salt Creek in Oklahoma and Towanda on the Whitewater River in Kansas had been authorized. On other Arkansas tributaries dams were in operation: Great Salt Plains on the Salt Fork, Eufaula on the Canadian, Wister on the Poteau, Heyburn on Polecat Creek, and Tenkiller Ferry on the Illinois. On the North Canadian fork of the Canadian, Canton Lake on the mainstream had long been in use. Also on that stream, called Beaver in the Oklahoma Panhandle, Optima Dam, first authorized in 1936, was 21 percent complete at the end of FY 71. Arcadia Dam on the Deep Fork prong of the Canadian at a site northeast of Oklahoma City had also been authorized. Fort Supply Dam on the Wolf Creek tributary of the North Canadian had been functioning since 1942.

[1] Quoted by C. F. Byrns, "Off the Record," *Fort Smith Southwest American*, 11 Jul 59.

**Great Salt Plains**

All of the dams authorized for the Grand (Neosho) River system except Cedar Point on Cedar Creek, a tributary of the Cottonwood River, had been constructed by 1971. Marion on the Cottonwood, and Council Grove and John Redmond on the Grand (Neosho) were on the upper reaches in Kansas. On the Oklahoma portion of the stream, the Corps of Engineers constructed the Fort Gibson Dam which was dedicated in 1953. The Corps had recommended in House Document 107, 76th Congress, 1st session, 1939, that this project have a flood control storage capacity of 486,000 acre-feet above the maximum power pool. In the lake actually formed this was increased to 919,200 acre-feet to compensate for the flood control storage that had been lost in Pensacola Reservoir as constructed by the Grand River Dam Authority (GRDA). The maximum power pool of 365,200 acre-feet was approximately that recommended by the Corps in 1939.

Markham Ferry Dam was constructed by the GRDA. A measure enacted by Congress on 6 July 1954 (68 Stat. 450) modified the authorization previously granted to the Corps and approved construction by the GRDA. The Federal Government was to pay an amount, not to exceed $6.5 million, which the Corps and the GRDA agreed upon for construction of the flood control features. Congress enacted the authorizing act in 1954 only after long negotiation between the Corps and the GRDA brought agreement between the two agencies. The Corps operates the flood control feature of the project where the flood control pool is 244,200 acre-feet of the total storage capacity of 444,500 acre-feet. Originally the Corps recommended 213,000 acre-feet. Markham Ferry was not completed until 1964. An account of developments relating to the project during more than 20 years will not be attempted here. They include the play of political forces, legislative action at both the State and Federal level, litigation in State and Federal courts over a controversial contract between the GRDA and Public Service Company, problems in the sale of bonds, and a host of smaller matters.

One factor in the delay was a suit brought by the GRDA to force the Federal Government to pay it for the water the Corps of Engineers was using at Fort Gibson. The Authority contended that the State of Oklahoma owns the water in the Grand (Neosho) River and that the State conferred all the rights it possessed in the stream to the GRDA. The

Federal Government could take the water by exercising its right of eminent domain, but just compensation was required under the Fifth Amendment. In a 3-2 decision the US Court of Claims held that the GRDA was "entitled to recover just compensation for the taking of its water right and its franchise." Further proceedings were to determine the amount to be recovered.[2] The US Supreme Court, in a unanimous decision, reversed the judgment of the Court of Claims, holding that in the exercise of its constitutional commerce power the United States had not taken the property of the Authority in the sense of the Fifth Amendment.[3]

The objectives of the Corps program for the Grand (Neosho) subbasin seem to be served with the present arrangement. No doubt there have been times of friction between the Corps and the GRDA, but no serious conflicts are apparent.

In 1960 the District completed Willis Bridge over which Oklahoma Highway 99 and Texas Highway 10 cross Lake Texoma. A $4½ million project designed by the Oklahoma Department of Highways, Willis Bridge was constructed in response to demands which began almost as soon as Denison Dam was closed. Under a joint-venture contract, Mossmann Construction Company of Kansas City built the substructure and John F. Beasley Construction Company of Dallas the superstructure. Ira E. Williams, as resident engineer, supervised construction in which the engineering ingenuity of the personnel of the two companies applied the latest techniques, and devised some new ones, for construction of a long bridge over water which often was 60 feet deep.

Major local protection projects include the Tulsa-West Tulsa and the Jenks levees on the Arkansas, the diversion channel and levees on Boggy Creek at Enid and the Oklahoma City Floodway on the North Canadian in Oklahoma; a levee system with control features at Carthage, Missouri, on Carter Creek and the Spring River; and in Kansas a levee system and diversion canal protecting Hutchinson from floodwaters of Cow Creek and the Arkansas, and the Wichita-Valley Center flood control project on the Arkansas and tributaries.

Local interests contributed to the cost of the local protection projects according to provisions of applicable laws. The approximate $16 million cost of the Oklahoma City Floodway, second largest of the projects, was shared about equally by local interests and the Federal Government. Local interests—city, county, and State—paid over $6.5 million toward the nearly $19 million original cost of the Wichita-Valley Center project.[4]

Any one of the local protection projects is worthy of separate attention, but the Wichita-Valley Center project has been selected, not because it cost the most, but because it presents the greatest engineering or design challenge, and represents a distinctive achievement. Several plans were considered before the one used was selected. Wichitans affirm that it really works; it has already prevented flood damages equal to two-thirds of its cost. The efforts of local leaders to obtain construction rival in drama and frustration those of the promoters of Arkansas River navigation.

About 49,000 acres of highly developed urban and suburban lands in the Wichita-Valley Center vicinities of Sedgwick County, Kansas, are provided substantial flood protection by a system that includes 40.9 miles of diversion channels, 97.3 miles of levees, and five control structures that use the existing streams to carry floodwaters to the limit of their capacity and divert the excess to a bypass floodway. Previously existing levees and canals were improved and modified. Illustration III will assist in visualizing the features of the project.

A floodway diverts the Little Arkansas River from a point about 2 miles northwest of Valley Center southward into the Arkansas River. A system of levees and channels north of Wichita collects the flows of Chisholm Creek and its Middle and West Branch tributaries and diverts them across the Little Arkansas River into the Arkansas River. Existing stream channels carry the

[2] 146 C. Cls. 728-54.

[3] 363 US 229.

[4] Specific citation of sources for information in discussion of Corps of Engineers projects to this point in this chapter has been omitted to reduce documentation. Information has come from various *Annual Reports of Chief* and the 1971 editions of *Water Resources Development by the US Army Corps of Engineers* for the States of Arkansas, Kansas, Texas, Missouri, and Oklahoma. Intervs with David K. Craig, 4 Oct 74, and Anthony C. Kaprelos, 18 Oct 74, provided additional information on the Waurika and El Dorado projects; Ira E. Williams, "Exceptional Job Engineering," *Civil Engineering* 30 (January 1960):60-2, describes the engineering and construction archievements at Willis Bridge.

**Broken Bow**

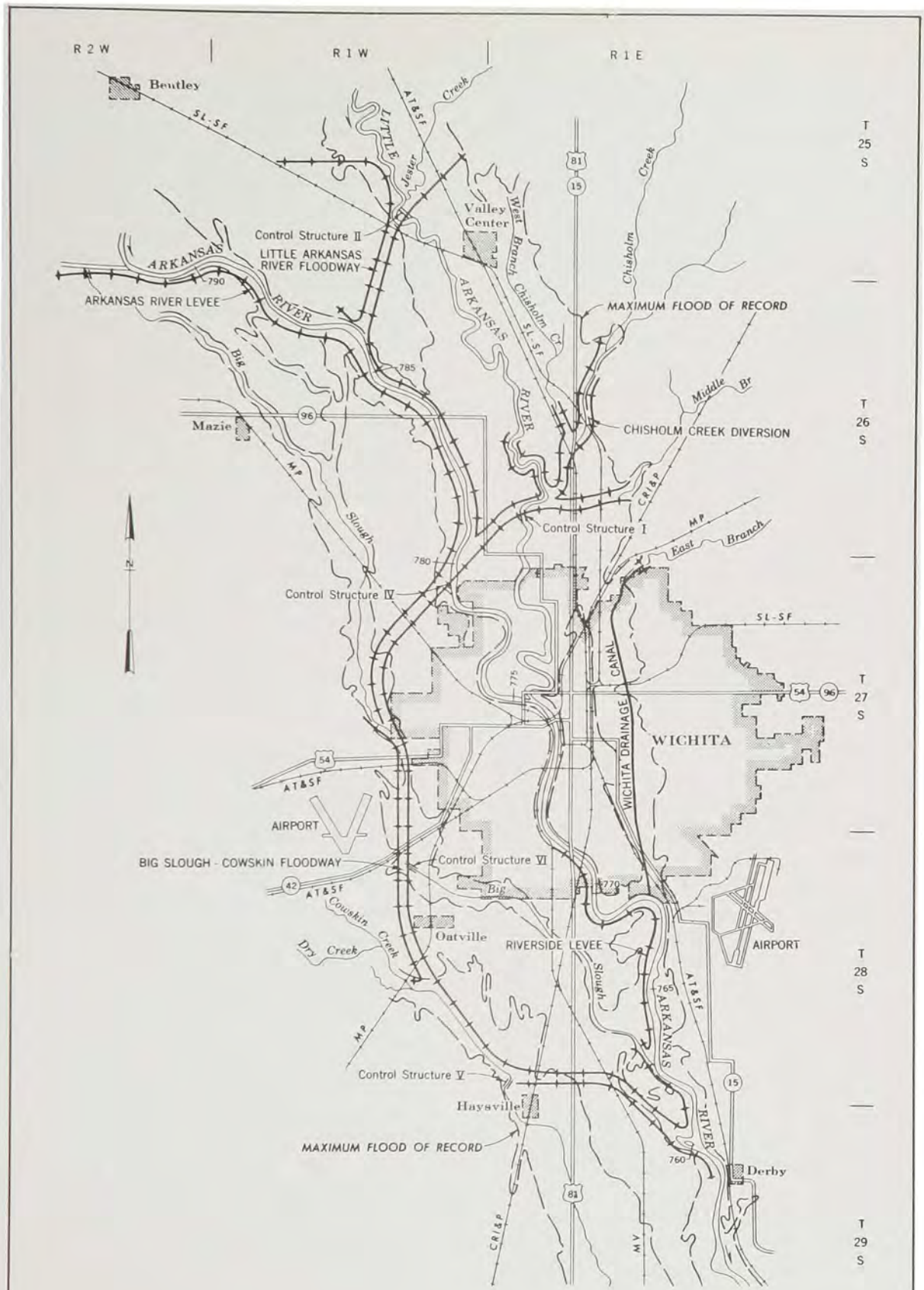
floodwaters to the limits of their capacity, and flows beyond those limits are diverted to and carried by a bypass floodway which was, when constructed, west of the city of Wichita. The bypass floodway has a normal bottom width of 80 feet and a depth of 10.9 feet. Levees of 8.5 feet average height flank the floodway, spaced 900 feet center-to-center. The floodway intercepts Big Slough at a point 2 miles from the Arkansas, runs along Big Slough for 5 miles, thence south and southeast 3 miles to Cowskin Creek which it follows for 2 miles before turning east and southeast for about 5 miles to the Arkansas River opposite the town of Derby.[5]

Wichita and Sedgwick County accepted the completed project on 16 June 1959, and on 19 June the formal dedication and presentation occurred. BG William Whipple, SWD Engineer, and COL John D. Bristor, Tulsa DE, made the presentation, and General Whipple made a brief dedicatory address in which he reviewed the work of the Tulsa District in Kansas. William C. Salome, Jr. was the principal speaker and honoree of the day. No one did more to get this project started, his co-workers avow, than the late Bill Salome.

Salome reviewed the history of the project. The city had been harassed by flood after flood. After the flood in 1923, the Corps of Engineers had begun a study out of which a plan evolved which was authorized by Congress in 1936, one of the driest years in Kansas history. Right then the dust bowl was so bad, Salome said, some of them would have been willing to settle for a small flood. The years passed, World War II came, and nothing was done except that residents fought floods with sandbags after heavy rains. In April 1944 a flood so badly damaged the city that Bill Salome, a nursery owner and also a member of the Wichita City Commission, concluded that Wichita could wait no longer, and he took on the task almost singlehandedly at first. But this part of the story he did not emphasize; he credited the many civic leaders and public officials who had worked for the project.

In 1944 Salome organized "Flood Control, Inc." and became its president. He had pads of membership applications printed and he personally distributed them all over Wichita. The cost of a membership was $1. For instance, he went to

[5] *Annual Report of Chief, 1959,* pt. 1, vol. 1:838-40; Interv, A. B. Bastos, 3 Sep 74.




# WICHITA AND VALLEY CENTER

## ARKANSAS RIVER, KANSAS

SCALE OF MILES

1 0 1 2 3 4

Sheldon Coleman, president of the Coleman Company, and told him he wanted $1,000. He wanted Mr. Coleman for one, but he wanted the membership of 1,000 of his employees. Salome believed that if he could obtain enough names, members of Congress and the Corps of Engineers would be impressed. Whatever the number of thousands of members was, he did get them. But from 1944 on it was a team effort involving many people. Salome had played a part as Mayor of Wichita in that time.

There was opposition to the floodway. Numerous lawsuits attempted to block the project. Salome noted that five times the enabling legislation was attacked in the Supreme Court of Kansas, and appeal was made to the United States Supreme Court without success. War and a presidential "freeze order" had delayed construction, but "today... it stands as a monument to our city and county officials and is an evidence of what can be accomplished when public officials, businessmen and citizen groups band together."[6] It would be difficult to find a better example of where the engineering know-how of the Corps of Engineers has been combined with an energetic effort of local interests to solve a serious problem.

To conceptualize the work of the Tulsa District in the years 1946 to 1971 is difficult even for one devoting considerable time to the study of the District's history. That so-called "man on the street" would find it next to impossible, for the popular image is one of the Corps as an organization of hundreds of thousands of employees who perform all the deeds that are done in the name of the Corps. The total number of employees of the Corps of Engineers, civilian and military, is approximately 40,000 in 1974. In the 10-year period from 1962, the first year in which the District had no military responsibility after 1941, to 1971 the average number of District employees on the last day of each calendar year was 1,346. This included personnel in the field, as well as in the Tulsa Office, involved in all the aspects of engineering, construction, real estate acquisition, operation of completed facilities, and administration. The District contracted for the performance of many services besides construction. Despite the use of contracted services, most of the duties other than actual construction are performed in-house. Survey reports, definite project reports, design memorandums, plans and specifications, cost estimates, archaeology, environmental impact, career development, supervision and inspection, data processing, contracts, value engineering, word processing, safety, records management, auditing, and appraisal are only part of the terminology for activities or products that required superior personnel with technical skills, knowledge, and experience. The District had to have and did have some who could think imaginatively and theoretically, and it had a sufficient number of persons who were willing to work very hard to achieve the results credited to the District.

Historically, the Engineering Division has been the most prestigious division of the District. At the beginning, W. L. Kuehnle was called senior engineer and there was no division. Kuehnle's assistant was Donovan P. Grosshans. Kuehnle was killed in an automobile accident at Watonga, Oklahoma, on 7 February 1942, and Grosshans was, within a few months, named Head, Engineering Division. In 1949 F. C. Kendall became the head of the Division, but Grosshans continued in important positions within the Division, retiring as head of the Planning Branch in 1965. Melvin W. Parse was chief of the Engineering Division from 1951 to 1963 when he retired and Myron W. DeGeer, his assistant, was named to replace him. DeGeer, whom Grosshans had employed during the first year of the District, held the position until his retirement in 1974.

The Construction Division was slow in getting that name. At first it was called Operations and one of the early heads of it was P. F. Goodman. Goodman left the Corps for a few years but returned later and was resident engineer in charge of construction on some of the District's major projects. Melvin Parse was Chief, Construction Division for a few years before moving to the Engineering Division. Erling A. Cornell was the engineer who headed Construction longer than anyone else, 1951-1965. He was succeeded in 1965 by one of his able assistants, Ray L. Broyles, a very important cog in the organization that brought the navigation system through on time. One of his subordinates, in attempting to convey the quality of work Broyles did himself and required of others, said, "Perfection was just not good enough for Ray Broyles." When Broyles retired in 1971 he was succeeded by W. L. Boland, one of the original employees of the District

[6] Interv, Donald W. Pray, 16 Mar 73; *Wichita Eagle*, 20 Jun 59; *Wichita Beacon*, 19 Jun 59; Doug Yocom, "Flood Control Project Ready to Protect Valley Center Homes," *Wichita Sunday Eagle and Wichita Beacon*, 12 Jan 64.

who probably had been in charge of more construction projects, most of them in the major category, than any other man in the District. Another engineer, Ira E. Williams, who had spent his career in construction, including 4 years at Denison and an overseas assignment before joining the Tulsa District, succeeded Robert F. Hunter as chief of the Operations Division when Hunter retired in 1970. Hunter had been the only head of that Division from the time it was formed in 1949.

Three men have headed the Real Estate Division: J. Lee Hogue, Jr., David Helms, and John D. Truett. Colonel Bristor moved Helms into the top spot in 1958, but until his retirement in 1965, Hogue worked with Helms. Truett took over as chief after more than a dozen years in the real estate operation when Helms retired in 1970.

The fifth activity with division status is that of Procurement and Supply. Its smooth running makes the work of others easier. From 1945 to 1961 Paul J. Dupont was chief except that from 1951 to 1955 he was on assignment in Casablanca, Morocco, North Africa. During Dupont's absence, W. A. "Bill" Hollingsworth was chief. C. K. Weedman headed the Division from 1962 to 1967, and Victor E. Steinley was chief from 1967 until his retirement in late 1974.

Many examples of other people who have provided the backbone of the Tulsa District are found in the staff level offices or their predecessors. For instance, the Office of Administrative Services (called Office Service Branch for years) was headed by George E. Fox from 1951 to 1967 when John H. Egbert moved from the same position in another district into the Tulsa District to replace Fox. Egbert, who retired in August 1974 with 30 years of service, had begun his work for the Corps in the Tulsa District.

Royce W. Kelley was the first personnel officer of the Tulsa District. In January 1943 he transferred to SWD in Dallas. Here it may be noted parenthetically that loss of personnel by transfer does occur and frequently the loss of key people is to the Southwestern Division where they continue as assets to the Tulsa District as a result of their knowledge of the District. Charles R. Flanery was in line for and was appointed to head the Personnel Branch as it was then named. In 1951 a Management Branch was formed under jurisdiction of the Comptroller, and Flanery was moved from personnel to head it. He soon became Deputy Comptroller also, and in 1957 was made Comptroller. In 1968 Flanery was named Executive Assistant to the District Engineer after having been both Comptroller and Acting Executive Assistant for 2 years. Flanery had begun his work for the Corps in the depression year of 1934 in Saint Louis as a CAF-1, the lowest possible grade, junior typist at $105 a month from which 15 percent was being deducted as a Government economy measure. His grade at retirement in 1973 was GS-13. His associates say he had earned it every step of the way, and his contribution to the District had been invaluable.[7]

But back to personnel after this diversion. Guy Dallas followed Flanery in the Personnel Branch, but in 1957 the position was upgraded and Colonel Bristor moved Norman H. Chaffee, Jr. from Executive Assistant in the DE's office to head the Personnel Office. Dallas worked with Chaffee in personnel. Chaffee, an original Tulsa District employee, had held mainly administrative positions, including heading the Fiscal Branch before his move to personnel where he stayed until retirement in December 1965. Klon Buckles, with 20 years of experience in the Personnel Office, moved from chief of the Position and Pay Management Branch, a thankless job if there is one in the District, to chief of the Personnel Office and has been there since.

Milton E. Schmidt and his successor and present Chief, Office of Counsel, Dean Emery, with their staffs, have rendered invaluable service. One member of their staff was Walter L. Fletcher, Labor Relations Officer, who had completed 38 years of Federal service, 32 with the Tulsa District, when he retired in 1971. Paul Clark served as Chief, Safety Branch, from 1952 until his retirement in 1971.

By 1959 when Colonel Bristor left, construction of the navigation system was underway, but the "squeeze" began with his successor as DE, COL Howard W. Penney, and continued to 1971. The District continued during these years to be led by able DE's. The normal tour of duty for a District Engineer is 3 years and for his Deputy DE, usually a

[7] Interv, Charles R. Flanery, 6 Jun 72, is source of personal information about him. The other information concerning personnel has been obtained from various organizational charts, a few newspaper articles about retirements, and questioning of District employees in informal conversation.

COL J. W. Morris

COL G. A. Rebh

lieutenant colonel, the tour is 2 years. The DE's contact with his non-Corps constituency takes much of his time. Speaking engagements, public meetings, conferences with friends and critics of the Corps, a close relationship with the Congressional delegation and other public officials, and a host of other responsibilities, in addition to running the District, make great demands on both his time and his competence. In this circumstance he must depend upon the type of people discussed above to "educate" him quickly and he must be an apt learner. At the same time, what he is and what he does has a great deal to do with how the District functions while he is there.

On 23 June 1962 COL John W. Morris succeeded Colonel Penney as District Engineer. His varied assignments during his 20 years in the Corps of Engineers, his M.S. degree in Civil Engineering at the University of Iowa, and a previous assignment as Assistant District Engineer, Savannah, Georgia, with first-hand experience in a civil works district prepared him well for his tour at Tulsa which continued through July 1965.[8]

COL George A. Rebh assumed command of the Tulsa District on 2 August 1965. He had graduated from the Military Academy in 1943 with Colonel Morris. He won a Rhodes Scholarship in 1947 and spent the next 3 years at Oxford earning Bachelor and Master degrees in Political Science, Philosophy, and Economics. He came to Tulsa after an interesting variety of military assignments and left the Tulsa District in November 1967 to assist in setting up the Sentinel Anti-Ballistic Missile program.[9]

Between Colonel Rebh's departure and the arrival of COL Vernon W. Pinkey on 16 March 1968, COL Harley W. Ladd commanded the Tulsa District as Acting District Engineer. Colonel Ladd came to Tulsa from the post of Deputy Division Engineer of the South Pacific Division, Honolulu, Hawaii. His significance as Tulsa DE is greater than

[8] "Biography COL John W. Morris," and "MG John W. Morris. . .," on file in PAO, Tulsa District. In early 1975 Morris was the Director of Civil Works in the office of the Chief of Engineers and held the rank of major general.

[9] "Biographical Sketch of Brigadier General George A. Rebh," on file in PAO, Tulsa District; Interv, MG George A. Rebh, 18 Jul 73. In early 1975 Rebh held the rank of major general and was Director of Military Construction in the office of the Chief of Engineers.


COL H. W. Ladd


COL V. W. Pinkey

the short tenure would indicate. His background differed from the typical DE, in that he was not a graduate of the Military Academy. He had earned a B.S. degree in Civil Engineering at the University of Missouri at Rolla, graduating in 1940, and in 1941 had entered the Army Air Corps as an aviation cadet. He was discharged after World War II as a major in the Reserves, but entered the regular Army as a captain in the Corps of Engineers in 1947. He earned an M.S. degree in Industrial Engineering (1954) from New York University and his duty as an Inspector General, San Francisco office gave him perspective as to the quality of the Tulsa District. When he left to make way for Colonel Pinkey in mid-March 1968, he returned to the Inspector General's office in San Francisco; but before the year ended, he took early retirement and came back to Tulsa to become executive vice president of the Arkansas Basin Development Association (ABDA) upon the retirement of Colonel Wilson on 1 January 1968.[10]

Colonel Pinkey brought to the District Engineer assignment a background fitting him for the task of making the navigation system operational on schedule. A 1945 graduate of the Military Academy, he later had earned a Master of Engineering degree from the University of California, Berkeley. His military education was extensive and he served as a staff officer in the Office of the Chief of Engineers. In 1955-56 he was Military Assistant to the Albuquerque District Engineer, and 1957-59 served as Executive Officer of the Rock Island, Illinois, Engineer District. At the end of his tour as Tulsa District Engineer in July 1971, Colonel Pinkey retired from the Army and succeeded Colonel Ladd as the executive vice president of the ABDA while Ladd became the director of the Tulsa-Rogers County Port Authority.[11]

COL William E. Read, Pinkey's successor as DE, brought with him impressive military records and honors. He stayed less than 16 months, but at the end of that time he was assigned to the US Army

[10] Interv, COL Harley W. Ladd, 14 Dec 73; Sheet of biographical data on Harley W. Ladd provided by Ladd; *Tulsa Tribune*, 27 Jan 68.

[11] "Biography of Colonel Vernon W. Pinkey," on file in PAO, Tulsa District; Interv, COL Vernon W. Pinkey, 23 Aug 74; *Tulsa Tribune*, 18 Jan 68.

**COL W. E. Read**

Aviation Systems Command at Saint Louis and he bore the rank of brigadier general. A 1950 graduate of the Military Academy, he held an M.S. degree in Civil Engineering from the University of Illinois, and had been an assistant professor in mechanics at West Point. He came to Tulsa directly from his second tour of duty in Vietnam.[12]

Credentials on paper are one thing; performance is another. And here it must be said the achievements of the District compare favorably with the credentials of the employees and the District Engineers.

After 1958 there were no further authorizations of projects in the Tulsa District until 1962 although numerous studies had been authorized. A factor in delay in completion of the studies was the marginal or nonfeasible status of several of the proposed projects. LTG Walter K. Wilson, Jr., soon after becoming Chief of Engineers on 19 May 1961, directed Colonel Penney to complete by 1 January 1962 all survey reports that were due. The Tulsa District had 6 to 7 months to complete 12 survey reports, but it did it. They formed the basis for most of the 14 authorizations of 1962.[13]

Several of the projects authorized in 1962 would not have met economic feasibility requirements a few years earlier, but there had been changes in criteria. For instance, the Water Supply Act of 1958 (72 Stat. 319) which was cosponsored by Senators Kerr and Case, for the first time authorized the Corps of Engineers to build into reservoirs storage capacity to provide for both present and future needs for water for industrial and municipal purposes. Previously, only surplus water had been available for such purposes. The 1961 Water Pollution Control Act amendments (75 Stat. 204) of which Senator Kerr was also a sponsor, permitted the Corps to include water quality and flow regulation features on a general basis in its water projects. As the result of an administrative decision, a project manual published in August 1959 directed that henceforth, recreational benefits were to be considered as a basic project purpose but were not to exceed 15 percent of the project cost. Senator Kerr was one of the sponsors of Senate Resolution 148, 85th Congress, 2d session, adopted on 28 January 1958 over strong Republican opposition. It called for reports on intangible or indirect benefits on water projects and asked that Federal agencies provide information on benefit/cost ratios and payments based on a 100-year as well as 50-year life of a project. Resolution 148, the result of study by the Interior and Public Works Committees which the Senate had asked for 2 years earlier, also suggested that all Federal agencies base their reports on the same criteria. This provision was unopposed.[14]

President John F. Kennedy on 6 October 1961 by memorandum directed the Secretaries of the four Departments concerned with water resource development—Army, Interior, Agriculture, and Health, Education and Welfare—to prepare a new statement of criteria to be used in determining feasibility of proposed water development projects. On 15 May 1962 the President approved the new set of criteria to which the four Departments had agreed, and on 29 May it was printed as Senate Document 97, 87th Congress, 1st session, for public and governmental use.

[12] "Biography of Colonel William E. Read," on file in PAO, Tulsa District; *Tulsa Tribune*, 30 Oct 72.

[13] Interv, LTG Howard W. Penney, 19 Jul 73.

[14] *Congress and the Nation 1945-1964*, pp. 856-57.

With these changes in criteria so many more things could be considered as project purposes in calculating benefits than had been the case under Budget Circular A-47 that economic feasibility became easier to establish, especially in multiple-purpose projects. This was especially true in the case of hydroelectric power, and in the next few years the originally planned power features that had been eliminated from projects in the navigation system were, with the exception of Oologah, restored.

On 31 May 1962 President Kennedy asked the four Departments which had joined in working out Senate Document 97 to develop specific standards for the measurement of recreation and wildlife benefits. This request resulted in their adoption and publication on 4 June 1964 of Supplement 1 titled *Evaluation Standards for Primary Outdoor Recreation Benefits* which spelled out guidelines for evaluating recreation as a project purpose.

The next year, Congress enacted the Federal Water Project Recreation Act (79 Stat. 213). Signed on 9 July 1965, the Act required that "full consideration" be given to recreation and fish and wildlife enhancement in the investigation and planning of any Federal water project. Separable costs for enhancement of fish and wildlife and for recreation were to be shared by Federal and non-Federal agencies with the Federal agency paying up to 50 percent of the cost. Written agreements regarding this cost sharing were to be sought before authorization.

Enactment of the Federal Water Project Recreation Act of 1965 coincided with an emphasis by President Lyndon B. Johnson on a "new conservation" whose concern, he said, was "with the total relation between man and the world around him." The President and Mrs. Johnson gave enthusiastic support to a highway beautification program that year, and by Executive Order 11278, 4 May 1966, the President's Council on Recreation and Natural Beauty was established. A project beautification program inaugurated by Colonel Morris while he was Tulsa District Engineer antedated the national program of the Johnsons by about 3 years, and it was not a completely new concern so much as an added emphasis which has continued. Colonel Rebh began the practice of employing local artists to paint murals for the visitor centers at the powerhouses of selected dams.

It has been characteristic of the Tulsa District at any time since 1946 to have a dozen or more studies in progress concurrently. More planning activity has concerned the Arkansas River Basin than the Red River Basin, but the Red River and its tributaries above Fulton have not been neglected. Studies and reports by the Tulsa District preceded all authorizations after 1945 for dams and river improvement projects in the portion of the basin for which the District is responsible. The District made significant contributions to the Red River sections of the Arkansas-White-Red Basin Interagency Committee (AWRBIAC) reports, and it provided input for the *Comprehensive Basin Study Red River Below Denison Dam* prepared by the Ad Hoc Red River Basin Coordinating Committee of the Water Resources Council. The Water Resources Council through the committee brought together a comprehensive study based on many previous authorizations and directives extending over a long period of years. The New Orleans District of the Corps of Engineers served as the chair agency. The report was printed in 1968 in a summary volume and 15 technical appendixes in seven additional volumes.[15] Certainly the Red River below Lake Texoma had been well studied in almost every possible aspect and recommendations made for future programs. The Red River Valley Association with its offices in Shreveport, Louisiana, and members in the States of Louisiana, Texas, Arkansas, and Oklahoma has been promoting Red River improvement programs since 1925.

The 1960s witnessed an upsurge of interest and activity in the field of water resource development. The growing rate of water use and the fear that water consumption would catch up with supply generally, as it actually was doing in some places, were motivating factors. Among the many legislative acts dealing with water resource problems were two measures that were the direct outgrowth of a study made by the Senate Select Committee on National Water Resources: The Water Resources Research Act of 1964 (78 Stat. 329) and the Water Resources Planning Act of 1965 (79 Stat. 244). The latter created the Water Resources Council alluded to above. Sen. Mike Mansfield, acting for himself and his Montana colleague Sen. James E. Murray, introduced the

[15] COL Thomas J. Bowen to Henry P. Caulfield, Jr., 11 Jul 68; *Comprehensive Basin Study Red River Below Denison Dam, Summary Report,* June 1968, pp. 1-2. Letter is stapled to *Summary Report.*

resolution creating the committee, but in large measure it was the brainchild of Senator Kerr and Don McBride. The resolution was approved by the Senate on 1 June 1959. Soon thereafter at the initial meeting of the 17-member committee, Senator Kerr was elected chairman unanimously, and hence the committee is often called the Kerr Committee. Hearings held throughout the country included some within the area served by the Tulsa District, and individuals and organizations interested in water resource development were heard. The committee used its hearings everywhere to arouse interest in water problems. Besides accumulating valuable information about the Nation's water needs and resources which was published in the form of committee prints, the committee in January 1961 made five general recommendations which formed the basis of subsequent legislative consideration. They added up to saying it was time to do the many things required to assure the adequacy and quality of the Nation's water supply.[16]

The Tulsa District was already actively involved in programs of the type the Kerr Committee approved. The most challenging of these, popularly referred to as the "Salt Studies," if successful, may ultimately become one of the most distinguished achievements of the District. In the beginning it was officially the Water Quality Study, Arkansas-Red River Basins, but now is the Arkansas-Red River Chloride Control, Texas, Oklahoma, and Kansas. Two Corps of Engineers reports of studies of the problem of natural chloride pollution of the two streams have been published: *Water Quality Study, Arkansas-Red River Basins* (Senate Document 105, 87th Congress, 2d session, 1962) and *Arkansas-Red River Basins, Water Quality Control Study, Texas, Oklahoma, and Kansas (Part I)* in five volumes (Senate Document 110, 89th Congress, 2d session, 1966). Part II of the studies was completed and reviewed by the Board of Engineers for Rivers and Harbors by the fall of 1966, but was not published although the report made positive recommendations. The practice of distinguishing between Parts I and II of the total project which was followed for years has been abandoned.

In July 1957 the Public Health Service, under authority of the Federal Water Pollution Control Act of 1956 (70 Stat. 498) began a study to determine the causes of mineral pollution of the two streams and to suggest measures to improve the quality of the water. Preliminary investigations revealed 15 sources in Kansas, Oklahoma, and Texas that are the primary sources of natural chloride pollution of the two streams. Detailed basin-wide studies were needed to more fully define the problem and to develop methods or measures to improve the overall water quality. Congress approved continuance of the Public Health Service study in August 1959, and in December 1959 a resolution adopted by the Senate Committee on Public Works authorized the Corps of Engineers to participate in the study.[17]

Mineral quality monitoring of streamflows in 1961-62 showed an average of 20,000 tons of salt (sodium chloride) flowed past Van Buren, Arkansas, in the Arkansas River daily, and 7,000 tons in the Red River flowed past Index, Arkansas, each day. Of this total of 27,000 tons, about 15,000 tons were from the 15 major natural sources and 12,000 tons from minor natural sources and manmade pollution, mainly resulting from oil and gas production. By 1966 the State water pollution control agencies of Kansas, Oklahoma, and Texas reported that 95 percent of the petroleum brine was being reinjected into producing strata for either pollution control or secondary oil recovery, thus indicating effective control of manmade chloride pollution.[18]

There is presently greater need for industrial and municipal water supply in the population centers that can be served by the waters of the Red River than in those that can easily obtain water from the Arkansas River; but in the future, if agricultural uses are also considered, all of the available waters of the two streams can be utilized if economically feasible conveyance systems are developed. A first step is to reduce the chloride content for an adequate portion of each year to or below 250 milligrams per liter (mg/l) which the Public Health Service has determined is the maximum allowable for human consumption.

[16] *History of the Implementation of the Recommendations of the Senate Select Committee on National Water Resources.* Committee print, Committee on Interior and Insular Affairs, US Senate, 90th Cong., 2d sess., p. v.

[17] S. Doc. 110, 89th Cong., 2d sess., 1966, pp. 3-4.

[18] Myron W. DeGeer and John C. Ball, "Chloride Control—Arkansas and Red River Basins," *Journal of the Sanitary Engineering Division,* ASCE, vol. 94, no. SA1, Proc. Paper 5812, February 1968, pp. 117-28.

The 15 major areas of natural salt pollution—salt springs, seeps, and flats—have been numbered from I to XV. (All areas except XI and XII are identified on Illustration I.) The Corps and the Public Health Service have continued to cooperate in the study, but because of the nature of the capability of the Corps it has had greater responsibility for planning solutions. Potential solutions that have been considered and rejected include desalinization, dilution, creation of brine disposal cavities by nuclear explosion, disposal of brines through a pipeline to the Gulf of Mexico, and subsurface injection.[19]

The Tulsa District first proposed two experimental projects which were authorized by the Flood Control Act of 1962 (76 Stat. 1173) which consisted of building up hydrostatic heads over two springs in the Red River Basin. Estelline Spring (Area V) which flowed into a tributary of Prairie Dog Town Fork of the Red River was surrounded by an impervious dike with a control weir, and when the flow from the spring produced a head of 5.5 feet of water within the dike, that head completely suppressed the flow. By the addition of a tracer, tritium, to the water which formed the head, measurement of the subsurface leakage and its travel time to the mainstream was obtained. At least the efficacy of tritiated water as a tracer of ground water or alluvial flows was demonstrated. The Estelline Spring experiment was placed in permanent operation in 1966.[20]

The second proposed experiment involved the driving of a pipe into the channel of a salt spring flowing into the South Wichita River near Guthrie, Texas, (Area VIII) and the building of a concrete plug, containing an adjustable weir, around the pipe. This experiment was discontinued in 1966, because local geologic conditions were such that the spring broke out in other places in the area.

The recommendations of the District Engineer made in Part I of the salt studies for other improvements in the Red River Basin and covering only Areas VII, X, and VIII were effectively summarized in the Report of the Board of Engineers for Rivers and Harbors, which approved the recommendations, as follows:

> The District Engineer finds that the most feasible and effective solution to the natural salt problem in the headwaters of the Wichita River is to capture the highly concentrated low flows and pump them to off-stream impoundment sites. The project plan includes three low-flow dams, one each on the North, Middle, and South Forks of the Wichita River [Areas VII, X, and VIII], two brine reservoirs, one on Canal Creek and another on a small tributary of North Fork, and pumping plants and pipelines to transmit the brine from low-flow sites to the brine reservoirs. Each low-flow dam would have a deflatable fabric-type weir located in the spillway section which would be collapsed to pass relatively good-quality high flow downstream. The pumping facility at each low-flow dam would consist of a 20 cubic feet per second, 9,000 gallon per minute, pump discharging into a 36-inch diameter pipeline to carry the brine to the brine reservoirs. The brine reservoirs are designed to impound runoff from a 100-year storm occurring after 100 years accumulation of brine and sediment. A gated outlet would be provided in each of the brine dams for emergency drawdown. An emergency spillway would also be provided to pass high flows of the maximum probable flood. . . .[21]

In 1966 Congress authorized (80 Stat. 1405) the salt control projects recommended in the Part I Report, but Congress specified that actual construction was not to begin until projects recommended in Part II were authorized.

The recommendations of the Board of Engineers for Rivers and Harbors in the Part II Report restate briefly the proposals of the District Engineer for projects, in addition to those recommended in Part I and authorized in 1966. These were:

> a. Construction and operation of . . . four subsurface brine collection systems with attendant pumping facilities: one system each on Elm Fork (Area VI), North and Middle Pease Rivers (Area IX), Jonah Creek (Area XIII), and Salt Creek (Area XIV); and four brine reservoirs: one each on Fish Creek (Area VI), Canal Creek (Area IX), Dry Salt Creek (Area XIII-XIV) and the Little Red River (Area XV); . . . .
>
> b. Construction and operation of . . . three fresh water resources with outlet diversion channels: one on the Salt Fork (Area I) and two on the Cimarron River (Areas II-III); and three brine reservoirs: one, a modification of the existing Great Salt Plains Reservoir (Area I), one on the Cimarron River (Areas II-III), and one on Salt Creek (Area IV); . . . .
>
> c. Early performance of supplemental field investigations and expansion of water quality monitoring programs in the two river basins, to consist of a fresh water impoundment dike at Great Salt Plains on Salt Fork (Area I); a collection system, evaporation pond, and deep well injection test on Elm Fork (Area VI), and additional water monitoring stations in the two basins, . . . .

[19] S. Doc. 110, 89th Cong., 2d sess., 1966, pp. 52-63.

[20] William C. Galegar and Myron W. DeGeer, "Measuring Subsurface Spring Flow With Radiotracers," *Journal of the Sanitary Engineering Division,* ASCE, vol. 95, no. SA6, Proc. Paper 6973, December 1969, pp. 1097-1103; *Annual Report of Chief, 1968,* vol. II:604.

[21] S. Doc. 110, 89th Cong., 2d sess., 1966, pp. 8-9.

No projects have been proposed for Area XI, embracing the Prairie Dog Town Fork (and tributaries of the Red River), and for Area XII on Rattlesnake Creek in Kansas. The structural measures proposed in Part II were authorized by Congress in 1970 (84 Stat. 1818). Preconstruction planning for the control structures of the Part I Report has been underway since October 1967. Progress of significance has been made on supplemental field investigations in Area I, the Great Salt Plains in Oklahoma and in Area VI, the Elm Fork of the Red River in Oklahoma.[22] As funds have been made available the District has continued its investigations mainly in the Red River Basin aimed at proving the technical and economic feasibility. The problem is more extensive there, but also easier to "get a handle on." Greater funding by Congress would have made possible more rapid progress.

Nothing is more basic to the development, or even survival, of an area than a dependable supply of water of the quality suitable for the purpose of its use. In 1960 the use of water in the United States was approximately 310 billion gallons daily and the Kerr Committee estimated the daily requirement would rise to 600 billion a day by 1980. The area of the Tulsa District is no exception to this need, and in the 1970s deep concern is being expressed by leaders such as Robert S. Kerr, Jr. and US Sen. Henry Bellmon for instance who understand the need. Approximately 37 million acre-feet of water flow out of the District each year via the Arkansas and Red Rivers. The extent to which the Corps of Engineers can develop practical methods of improving the quality of that water and the leaders can plan for its better utilization will have a great deal to do with determining the future of the region. The Corps accepts, even enjoys, the challenge.

Two other studies have absorbed time and interest of Tulsa District personnel. One is the proposal to extend navigation into central Oklahoma, and combined with it, to convey water from southeastern Oklahoma into the central part of the State. The second involves plans for extending Arkansas River navigation into Kansas. There have been other less ambitious proposals like the one to extend navigation up the Poteau to Lake Wister and from that lake via Fourche Maline River and Gaines Creek into Lake Eufaula which will not be dealt with here.

The origin of interest in the Central Oklahoma Project (COP) has not been found; but by the 1940s when authorization of the Arkansas River project became probable, the interest of Newt Graham and Bob Kerr was serious. Governor Kerr proposed at a special meeting, called by the Oklahoma City Chamber of Commerce and presided over by publisher E. K. Gaylord, that the city become interested in navigation to central Oklahoma. On 1 November 1945 the Board of Directors of the Chamber adopted a resolution offered by Gaylord asking that Congress order the Army Engineers to make a survey and cost estimate of navigation by the various streams that might be used. A committee chaired by Victor E. Harlow was appointed to promote the investigation. Harlow and R. A. Singleterry, secretary of the committee, wrote to Senator Thomas asking him to introduce a resolution calling for the study. Thomas obtained the resolution from the Senate Committee on Commerce on 19 November 1945. The next fall, about 4 months before Kerr left the governorship, Newt Graham wrote to Kerr and, after noting that the study had not been started, urged him to move for action lest his successor not have the same interest.[23]

Little had been done by the time of the AWRBIAC studies. The AWRBIAC's investigations were not extensive, but they did involve public hearings, a preliminary traffic survey, and engineering investigations of six routes from the Arkansas to the vicinity of Oklahoma City, five within the basin of the Canadian River system and a sixth one using the Cimarron. The conclusion was reached that "The navigation savings on the limited amount of traffic for which data were obtained would be inadequate to justify construction of the waterway, and further attempts to obtain data appeared inadvisable . . . ."[24]

[22] Myron W. DeGeer and Robert J. Hensley, "Control of Natural Chloride, Arkansas-Red Rivers," *Journal of the Waterways, Harbors and Coastal Engineering Division,* ASCE, vol. 97, no. WW4, Proc. Paper 8494, November 1971, pp. 631-45.

[23] Victor E. Harlow and R. A. Singleterry to Elmer Thomas, 10 Nov 45. Thomas Papers; LTG William F. Cassidy to Secretary of the Army, a letter transmitting report of the Board of Engineers for Rivers and Harbors dated 7 Dec 65. McBride Papers. N. R. Graham to Hon. Robert S. Kerr, 10 Sep 46. ABDA Files.

[24] *Arkansas-White-Red River Basins,* pt. II, sec. 4, *Navigation,* pp. 18-19.

The critical shortage of water during the drought of the early 1950s brought Oklahoma City to a crisis situation in 1953 during which it did obtain, after quite a hassle, some water from the Canton and Fort Supply Lakes. The City Council employed a Consulting Engineer, C. E. Bretz, to make extensive investigations regarding both immediate and long-range water supplies for the city. He concluded, in studies completed in 1954, that the tributaries of the Red River in southeastern Oklahoma were the best source of water to meet the future water supply needs. Meanwhile Guy B. Treat and COL F. J. Wilson had been engaged by the Oklahoma City Chamber of Commerce to study the water supply needs of central Oklahoma and to make recommendations for solving them. Their studies, completed in 1955, developed a canal plan for navigation to Oklahoma City from the Arkansas via a route into Lake Eufaula and from Eufaula to a point near Ada via the Canadian River and from Ada northwesterly to the vicinity of Oklahoma City. Treat and Wilson also concluded that the large volume of water that ultimately would be required in central Oklahoma could be moved from southeastern Oklahoma by means of a canal that might be a joint navigation-water conveyance facility.

Local interests now urged the Oklahoma Congressional delegation to obtain authorization for the Corps of Engineers to study the feasibility of improvements for navigation, water supply, and other improvements. The urgency of Oklahoma City's water needs prevented its waiting for the outcome of such study, and it went ahead with construction of Lake Atoka on North Boggy Creek and a 60-inch pipeline 90 miles long between Lake Atoka and Elm Creek Reservoir, a terminal reservoir built southeast of Oklahoma City. Later the Bureau of Reclamation constructed Thunderbird Lake on the Little River near Norman which helps to meet other water needs in central Oklahoma.

Resolutions adopted by the Senate and House Public Works Committees on 12 March and 29 June 1955, respectively, instructed the Corps of Engineers to "Consider a navigation canal from the Arkansas River Navigation Project . . . to the vicinity of Oklahoma City and a navigation and/or water supply canal from the tributaries of the Red River in Oklahoma below Denison Dam to the vicinity of Oklahoma City, making joint use of said canal where feasible."

The "Initial Findings" of 15 January 1960 of the Tulsa District Engineer did not support detailed studies of the navigation proposal, but he did recommend further study of the water conveyance plan. Senator Kerr obtained another resolution asking for further study from the Senate Public Works Committee on 13 April 1960. Beginning in late 1961 the Corps took a new look at possible navigation routes.[25]

The COP was every bit as much, if not more, Robert S. Kerr's project as was the Arkansas River navigation, and until his sudden death on 1 January 1963 he did everything within his power to win support for it and to have it carefully considered by the Corps of Engineers. He never doubted openly, and perhaps not privately, that someday it would be a reality. His passing removed the one most powerful force behind the project. On the afternoon of 3 January, the day before the Senator's funeral, Ed Edmondson, one of Kerr's closest co-workers, came to see the Tulsa DE, COL John W. Morris, to offer assurance of his support and to learn what needed to be done. For 2 hours they had a "What now?" discussion of many things. As for the COP, Morris felt the death of Senator Kerr placed a greater responsibility on the Corps to find a basis for justification. Kerr might have pushed a marginal project through the Congress, but in the future the Corps' finding "will be subjected to a very acid test and must stand fully justified on its own merits."[26]

Jack Morris believed the survey report he submitted to the Division Engineer on 29 January 1964 would "stand fully justified on its own merits." BG C. W. Dunn, SWD Engineer, concurred in the report which recommended authorization of both the navigation and water conveyance projects for central Oklahoma.

The recommended route of the navigation system was from the pool above the Robert S. Kerr Lock and Dam on the Arkansas to Eufaula Lake via Dirty Creek and from Eufaula Lake to a point northeast of Oklahoma City via the Deep Fork

[25] COL J. W. Morris, "The Central Oklahoma Project," a technical paper submitted at the fiftieth meeting of Arkansas-White-Red Basins Inter-Agency Committee, Oklahoma City, Oklahoma, 28 Jan 65, pp. 1-2. TD History File; Copy of resolution of 13 Apr 60 in TD Records.

[26] Memorandum for record by COL J. W. Morris, 8 Jan 63. TD Records.

River. Eight locks with a total lift of 462 feet would be required. A 31-mile navigation route within Eufaula Lake to the McAlester, Oklahoma, area was included in the project. The plan included two dams, Arcadia and Wellston, near the head of the navigation channel for flood control, regulation of flows, and conservation of water. The total first cost, based on 1963 prices, was estimated at $400,-163,000 of which $54,863,000 would be non-Federal cost. The benefit/cost ratio was 1.4 to 1.0, based on a 50-year period of analysis for the navigation channel and locks and dams and a 100-year period for the dams.

The water conveyance plan recommended was a 163-mile canal from near Hugo Lake to the Elm Creek Reservoir at Oklahoma City. The maximum lift of 804 feet would be met by constructing the canal in six levels with the water raised between levels by pumps. The first cost was estimated at $263,209,000. State and local interests would be required to bear the cost of operation and maintenance and fully reimburse the Federal Government for its cost over a 50-year period.

The Board of Engineers for Rivers and Harbors reviewed the report, and on 10 December 1965 announced its conclusions. It found the Arcadia Dam justified independently of other features and recommended its immediate construction. It also recommended authorization of the water conveyance plan if local interests could work out the legal problems involved in transferring water from one river basin to another. The navigation portion should be deferred and studied again after the Arkansas navigation system had provided a record of experience. The value of the overall plan as a guide for further development work in the region was recognized in the recommendation that the Corps continue its study of conditions and progress there within the framework of the plan.[27]

By the time the Board reviewed the report of the District Engineer, it was applying economic feasibility criteria which the Chief of Engineers had made applicable to navigation projects on 20 November 1964, nearly 11 months after Colonel Morris had submitted the survey report. The Board had used projected competitive rates after the waterway was in operation (water-compelled rates) in developing estimates of waterway-transportation benefits, and had employed a 50-year amortization period whereas the 100-year period had been used by the District on a portion of the project. The Chief of Engineers believed that the criteria conformed to the objectives set forth in the Transportation Act of 1958 and in Senate Document 97, 87th Congress, 2d session.[28] On this basis the Board had found the navigation lacked economic feasibility.

The Water Development Foundation of Oklahoma, Inc. and the Deep Fork Watershed Association, the strongest organizational promoters of the COP, were unwilling to accept the judgment of the Board. The COP had always had the unanimous support of the members of the Oklahoma Congressional delegation, and they were not ready to give up. Their protests and those of several other western members of Congress brought a review of the "new" criteria by the Bureau of the Budget and instructions were revised "to eliminate the use of water-compelled rates for the evaluation of future navigation projects including those now under study by the Corps of Engineers."

The Chief of Engineers returned the survey report to the Tulsa District for an interim report on Arcadia Reservoir and the Water Conveyance plan for a restudy of the navigation feature. To follow through the details of the various things that have happened in the study of the COP since would extend this history beyond its 1971 date, but a very brief statement seems permissible. First, the Arcadia project was separated from the navigation project, and as noted earlier in this chapter, was authorized by Congress in 1970. Second, the water conveyance and navigation extension projects have been separated. These studies have progressed slowly as influencing factors have changed. On 24 September 1974, COL John G. Driskill, Tulsa DE, reported at a public information meeting in Oklahoma City, sponsored by the Oklahoma Water Development Foundation, Inc., that on the basis of the studies to that time, he had "concluded that further navigation studies are not warranted at this time," and he had "obtained approval to terminate the navigation investigations." The water conveyance studies now are scheduled for completion early in FY 76.

[27] US Congress, House, *Arcadia Reservoir, Deep Fork River, Oklahoma.* H. Doc. 91-299, 91st Cong., 2d sess., 1970. p. 11.

[28] MG Jackson Graham to Hon. Mike Monroney, 21 Dec 63; Charles L. Schultze to Hon. A. S. Mike Monroney, 21 Mar, 4 May 66. McBride Papers.

It will be remembered that in the early 1880s the Corps of Engineers abandoned an attempt to run a snagboat up the Arkansas River to Wichita, but in 1885 the *Kansas Miller* did ascend the river as far as Arkansas City and the following year returned to Fort Smith towing two barges. A dream of navigation to southern Kansas has continued to this day. The AWRBIAC gave some consideration to the matter. Preliminary engineering studies were made of the Arkansas River in Kansas, problems that would be encountered in making the river navigable there were identified, and the information was furnished to officials of the State of Kansas to determine their views on the advisability of further navigation investigations. The officials recognized that some local interests wanted a determination of the economic feasibility of navigation, at least to Arkansas City, Kansas, and that at a public hearing in Wichita on 19 September 1950 the view was expressed that no structure should be constructed on the main stem of the Arkansas that would preclude the possibility of future navigation development. However, even these local interests were unfavorable to development of navigation projects then due to the prevailing state of the Federal budget and the national emergency caused by the Korean War. It was concluded that at that time that in the foreseeable future the primary consideration in construction of water storage facilities should be the control of floods.

Lynne Holt, a *Wichita Eagle* staff writer, wrote in October 1966 that interests in the Wichita region in Arkansas River navigation was like the availability of water, sometimes abundant, almost flooding, and at other times only a token trickle as in a drought. But since 1959 it seemed that someone had been closing the flood gates and a "reservoir of enthusiasm" was "abuilding in the region."[29]

Don W. Pray, Wichita businessman long concerned with water resource problems, was the first Wichitan to attend a meeting of the ABDA in Tulsa and in the 1950s he became actively involved, as were many of his fellow citizens, in the promotion of flood control and other river improvement features. Pray reasoned that Tulsa would reap more benefits from extension of navigation into Kansas than Wichita and therefore should be interested in the extension. Other water issues in Kansas took precedence for a time, but 1962 saw the actual start of an effort that has continued to the present. In that year Justus Fugate financed a brief preliminary study by Stanley Grossman of the possibility of bringing navigation to the Wichita area. It indicated engineering feasibility but recommended a major study to determine fully the engineering and economic feasibility. In May 1963 Mayor Gerald Byrd and Chamber of Commerce President Fred Kimball jointly announced the appointment of Pray as chairman of an Arkansas River navigation study committee. Pray quickly announced the membership of an 18-member committee.

In 1965 Colonel Morris, as the end of his tour as DE was approaching, became convinced that it was in the interest of the Nation for the Corps to take a hard look at the development of the Arkansas in southern Kansas, including navigation. In order to be sure it was on the agenda of his successor, Morris decided to hold a public hearing in Wichita, and Don Pray was asked to make the local arrangements on short notice. Morris found his authority for the hearing in four resolutions passed by Congressional committees between 1944 and 1951 and Section 208 of Public Law 89-298 (89 Stat. 1073 and 1085) enacted earlier in 1965, none of which mentioned navigation. The hearing, held on 15 May 1965, brought forth a great show of enthusiasm, and Colonel Rebh, who succeeded Morris, now had a responsibility for further investigation. His interest was real, however. Also on 5 May 1966 Rep. Garner E. Shriver obtained from the House Committee on Public Works a resolution calling for a study of the Arkansas River above Tulsa for various purposes, one of which was extension of navigation. Thus a specific study was now authorized.[30]

A nonprofit corporation, the Mid-Arkansas Valley Development Association, Inc. (MAVDA), was now formed and Pray was elected as its president. The first project was to obtain an investigation of the engineering and economic feasibility of the development of navigation from Tulsa with findings and recommendations to be presented when the

[29] Lynne Holt, "Wichita-Tulsa Navigation Idea Begins to Bear Fruit," *Wichita Eagle*, 21 Oct 66.

[30] Interv, Don W. Pray, 16 Mar 73; D. W. Pray, "President's Report," to Mid-Arkansas Valley Development Association, Inc., First Annual Meeting, 23 Feb 67. Copy in possession of writer; Notice of Public Hearing . . . Wichita, Kansas, 15 May 65; Copy of resolution adopted 5 May 66 by Committee on Public Works of the House of Representatives. TD Records.

Corps of Engineers held its public hearing on the now authorized study. MAVDA obtained the services of Dr. F. O. Woodard, Dr. Richard E. Olson, and R. T. Phillips of the Department of Economics of Wichita State University and the Grossman Engineering Company of Norman, Oklahoma. The leaders of MAVDA expected the hearing to occur sometime in 1967, but Colonel Rebh called for it before the end of 1966. It was held on 15 December 1966. An intensive effort was required to have the study ready. It was based on a route from the Port of Catoosa to a point 5 miles south of Augusta, Kansas, which made use of Keystone Lake, Kaw Lake, the Arkansas River, and the Walnut River. Without considering benefits to be derived from improvements to water supply, recreation, flood control, and other allied purposes, the study concluded that navigation facilities would yield benefits in relation to cost in the ratio of 1.8 to 1. The economists found that $2.6 billion could be saved in the cost of shipping over a 50-year period of just five commodities—newsprint, aluminum, coal, wheat, and phosphates. Pray loaned MAVDA $15,000 to finance the final stages of the study which cost a total of about $40,000. He was repaid completely.[31]

The Tulsa District has continued its study since Colonel Rebh's public hearing. By the end of 1971 this study had been broadened beyond determining economic and engineering feasibility to one involving comprehensive environmental and human development criteria in keeping with changes in Corps policy following enactment of the National Environmental Policy Act of 1969. The Corps has been assisted by a multiple-disciplinary team—botanist, zoologist, engineer, planner-climatologist, and archaeologist—from the University of Oklahoma in the evaluation of eight alternative navigation routes from Catoosa to near Wichita on the basis of biological, physical-chemical, climatological, archaeological, aesthetic, and planning factors.[32] By September 1974 the studies had failed to establish a favorable benefit/cost ratio for navigation and Colonel Driskill announced on 1 October 1974 at a public information meeting in Wichita that the navigation studies were suspended, but the comprehensive study of water resource problems and needs of the Mid-Ark River Basin was to continue.

The National Environmental Policy Act of 1969 also introduced new dimensions into studies for the COP and all others. The changes were in form and depth, not the introduction of a new concern for the Tulsa District. As far as this writer has been able to learn, the District has always attempted to obey both the letter and the spirit of every applicable law regarding environmental protection and cooperation with other agencies at all levels of government that have responsibility in this area. It also has worked with many private organizations interested in environment as projects have been planned and later designed in detail. In 1948 and 1949 Colonel Chorpening held meetings of representatives of interested Federal and State agencies on survey report studies at which there was real two-way communication involving many of the issues with which today's environmentalists are concerned. Attendance at a meeting of 21 September 1948 is representative. There were 13 key staff members of the Tulsa District, representatives of the Soil Conservation Service, Bureau of Reclamation, Federal Power Commission, National Park Service, Arkansas Resources and Development Commission, Oklahoma Planning and Resources Board, Kansas Division of Water Resources, and the Fish and Wildlife Service in attendance. Individuals bore titles such as biologist, park planner, landscape architect, and planning engineer. Review of survey reports by Federal agencies with overlapping or related responsibilities and agencies of the states concerned is standard procedure in the District.

A series of developments, extending from the studies of the Senate Select Committee on Water Resources through a study by a task Force on Federal flood control policy appointed by the Bureau of the Budget and the publication of the latter's report as House Document 465, 89th Congress, 1966, led to the assigning of responsibilities in the field of flood plain management to the Corps of Engineers. In January 1967 Jerry L. Greer was named assistant chief of Engineering for Flood Plain Management Services. Greer, trained as a civil

[31] Interv, Don W. Pray, 16 Mar 73; Pray, "President's Report," 1967; F. O. Woodard, Richard E. Olson, and R. T. Phillips, assisted by Grossman Engineering Company, *A Feasibility Study of the Extension of Navigation in the Arkansas Valley Above Catoosa, Oklahoma, for Mid-Arkansas Valley Development Association* (MAVDA) (Wichita: Mid-Arkansas Development Association, Inc., 1966.)

[32] Interv, Donald Warnken, 30 Aug 74.

[33] Minutes of four of these meetings are in ABDA Files; Interv, Billy R. Mahaffay, 9 Mar 73; Interv, Jerry L. Greer, 9 Mar 73.

engineer, had worked for the Little Rock District for 2 years in hydraulics before being loaned to the Tulsa District during the flood of July 1951, and the Tulsa District kept him instead of returning him. His work assignments had included hydrology, structural design, relocations, and design memoranda.

The purpose of the program which Greer administered was to make available information, guidance, and advice on flood hazards to Federal, state, and local government agencies to enable them to carry out planning, engineering studies, construction, and other action required for wise use of flood plains. To serve this purpose the District made the whole range of technical competence available through research, flood plain information reports, flood damage prevention planning, and other services. The utilization of this assistance by communities in the District had reached significant magnitude by the end of 1971.

The westward movement of Americans was characterized by the frequent location of settlements on flood plains with no thought to future growth and little to immediate dangers. From these beginnings many thriving cities grew in places where they never should have been built in the first place. And there are cities which at first were well-located, but have expanded into the flood plains of small streams that have become growing hazards with continued development. Long-time residents of Tulsa understand this problem. The entrance of the Corps of Engineers which, as Jerry Greer put it, "has been keeping water away from people" into the cause of "keeping people away from water" is beneficial for both the communities in need and the Engineers.

In January 1970 Greer was named Chief, Environmental Resources Section, Engineering Division. E. T. Kimbrough replaced Greer on an acting basis for a time, and then Carroll E. Scoggins was given responsibility for flood plain management services as Special Assistant to Chief, Engineering Division.

A new Environmental Branch was established in the Office of the Chief of Engineers in 1967 and in the fall of that year the Environmental Resources Section, Planning Branch, Engineering Division, was created in the Tulsa District with Robert M. Black as its first chief. In discussing these new developments, Colonel Rebh explained to District employees:

> One of the new factors is the increased emphasis being given to the intangible values associated with resource development and construction. They include such things as scenic beauty, architectural design, preservation of the wilderness and historical and archaeological values. We are more than ever before concerned with the cultivation of beauty and the creation of a total healthy environment. We call this new element *environmental engineering*.[34]

Upon the retirement of Black in 1968, his close associate Buell Atkins was named acting chief of the section. Atkins, a biologist, continued as acting chief until Greer was named chief in 1970 as noted above.

The Environmental Resources Section has had an expanding function since its creation, as more and more emphasis has been put on the environmental impact of Corps planning. It has been a matter of regrouping the talent already there—people whose training, interests or experience, or a combination of these, fitted them for the work to be done.

Larry Banks is an example of the statement just made. He had worked for the District several years. Educated as a geologist, his avocational interest in archaeology began at the age of 11; he formed an archaeological society as a high school student at Grapevine, Texas; and he has participated in archaeological fieldwork alone and with many institutions. In September 1970 the new position of archaeologist was created within the Environmental Resources Section and Banks was named to fill it. He was the only titled archaeologist at the time in the entire Corps of Engineers. The District strives to identify and protect the archaeological treasures within and near its projects by coordinating the work of the District with the National Park Service, universities, museums, state archaeologists, historical societies, and other interested groups and agencies. Much of the work has to be contracted. There is also a massive two-way sharing of information between the Corps and others who do research in the field. A working relationship has existed between the archaeologists and anthropologists at the University of Oklahoma and the District as long as there has been a District. Even in the construction phases of a project the District archaeologist will be called if something is found that requires his expertise or that of someone he can ask for help.

[34] *TD Information Bulletin* 8 (October 1967):1.

Dorothy Hunt DeGeer, stenographic reporter, whose service of recording and transcribing public hearings of the District extends over many years, recalls the first appearance at a public hearing on 31 August 1971 of representatives of environmentalist organizations to oppose a District project. The occasion was a hearing at Fort Smith, Arkansas, concerning Gillham Dam on the Cossatot River in southwestern Arkansas, which was a part of the process of preparing an environmental impact statement in fulfillment of an order issued by Federal District Court at Little Rock, Arkansas. Four organizations—Environmental Defense Fund, Ozark Society, Arkansas Audubon Society, and Arkansas Ecology Center—and two individuals, Pratt Remmel, Jr. and Russell Harper, had on 1 October 1970 asked the Federal District Court at Little Rock for an injunction halting construction of Gillham Dam which was then about 64 percent complete. Their contention was that the dam would ruin the last free-flowing stream in the Ouachita Mountains. The one remaining major portion of the project was construction of the rockfill embankment that would form the dam. The National Environmental Policy Act of 1969 (NEPA) was not retroactively applicable to the features that were under construction at the time of its enactment. Judge G. Thomas Eisele ruled that the requirements of that Act now had to be met with regard to the embankment and on 19 February 1971 issued an injunction halting construction of the dam until the Corps of Engineers submitted evidence that it had complied with the 1969 Act. The Corps, Judge Eisele thought, had not studied "all known possible environmental consequences." The Engineers had contended at the hearing that an impact statement filed in October and a revision filed in January were sufficient to meet the requirements of the NEPA, Judge Eisele thought otherwise.

The Tulsa District went to work on a new environmental impact study. Plans were modified to provide a third and higher outlet gate that would release warmer water downstream to meet the protests of those who had said the two lower outlets would release water too cold for certain species of fish. Hearings were held at Fort Smith on 31 August and at DeQueen, Arkansas, on 8 September 1971. In January 1972 the revised statement was submitted to Judge Eisele. He heard legal arguments and accepted briefs in the case. On 28 April he ruled at the end of a 2-day hearing that the new impact statement met the requirements of the Act of 1969, and he approved resumption of construction of the dam. On appeal by the plaintiffs, the Court of Appeals in the Eighth Circuit upheld the ruling of Judge Eisele. The plaintiffs had argued that the Corps did not include alternatives in its impact study, but the Court thought that to devote 37 pages out of 200 to alternatives that included even the abandonment of the project was sufficient. Its decision, the Court said, required a balance between the benefits to be derived from flood control and the importance of a diversified environment. It also considered that the project had been authorized 11 years before passage of the National Environmental Policy Act and that the nearly $10 million that had been expended would be lost if the project was abandoned. An attempt to appeal the case to the US Supreme Court was lost when the Court refused certiorari on 4 June 1973. The project had resumed after Judge Eisele's ruling in April 1972, but the delay caused by this litigation cost taxpayers approximately $550,000 on the increased amount of the one construction contract alone, to say nothing of the other costs to the Government.[35]

Another dam in the Little River system is as bitterly opposed as Gillham Dam was by those conservationists who would preserve free-flowing streams in their natural state. This is the proposed Lukfata Dam on the Glover River in southeastern Oklahoma. The opponents say it is the last free-flowing stream in Oklahoma and they would preserve it in that state. The conservationists, or preservationists if you choose, are opposed by landowners who want protection from floods and leaders in the area who believe the dam will contribute to economic development. Preconstruction engineering studies were underway in 1970 and 1971 as opponents stepped up their efforts to prevent construction on the basis of environmental issues. By the end of 1971 there was doubt that the District could, through its continuing environmental impact studies, resolve the conflict between ecologists and landowners who wanted protection from floods, but it would try.

[35] Interv, Dorothy Hunt DeGeer, 16 Sep 74; Interv, Jerry L. Greer, 9 Mar 73; FONECON, James G. Dwen, Jr., 17 Sep 74; 325 F.Sup. 728; 342 F.Sup. 1211; 470 F.2d. 289; *Little Rock Arkansas Gazette,* 20, 30 Apr 71; 13 Jan, 8 Feb, 30 Mar, 11 Apr 72; *Tulsa Tribune,* 20 Feb 71; 28 Nov 72; 28 Mar 73.

The Corps of Engineers was by 1971 being hailed the Nation's principal environmental repair agency due to its proven efficiency and despite the long record of criticism of it by the conservationists.[36] That the mission of the Corps was expanding and changing was evident in the Tulsa District, for the increasing awareness of the Nation's citizenry of environmental issues and the completion of so many civil works projects had their impact there.

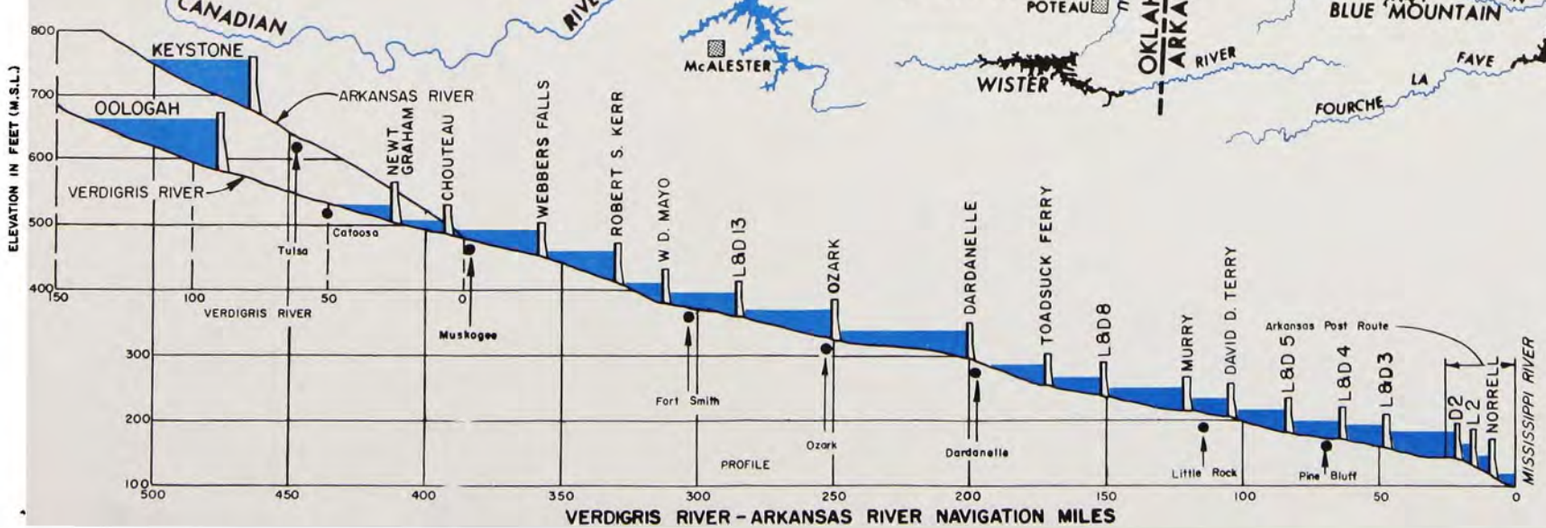
[36] John Lear, "Environment Repair: The U.S. Army Engineers' New Assignment," *Saturday Review*, 1 May 71, pp. 47-53. See also LTG F. J. Clarke, "The Environment Is Ours to Keep," Guest Editoral, *Constructor* 55 (May 1973):5 for an excellent brief statement of the environmental mission of the Corps.

# McCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM

SCALE OF MILES
10 0 10 20 30 40 50

**LEGEND**
- COMPLETED NAVIGATION SYSTEM
- PROJECT UNDER CONSTRUCTION
- PROJECT AUTHORIZED
- OTHER EXISTING PROJECT

ARKANSAS CITY · CANEY · COFFEYVILLE · VERDIGRIS R. · GRAND (NEOSHO) R. · KANSAS · OKLAHOMA · MIAMI · CHIKASKIA · BLACKWELL · HULAH · COPAN · PONCA CITY · SHIDLER · BARTLESVILLE · Sand Cr. · SALT FK. OF ARK. R. · KAW · PAWHUSKA · SAND SPRINGS · NOWATA · PENSACOLA · VINITA · Bird Cr. · CANDY · BIRCH · Hominy Cr. · SKIATOOK · OOLOGAH · SPAVINAW · EUCHA · Spavinaw Creek · MISSOURI · ARKANSAS · Black Bear Creek · PERRY · CLEVELAND · PRYOR · CLAREMORE · LAKE CARL BLACKWELL · STILLWATER · SAND SPRINGS · MARKHAM FERRY · SILOAM SPRINGS · ARKANSAS RIVER · CATOOSA · NEWT GRAHAM · ILLINOIS RIVER · CIMARRON RIVER · KEYSTONE · SAPULPA · TULSA · CUSHING · WAGONER · GUTHRIE · HEYBURN · Poteau · TAHLEQUAH · FORT GIBSON · CHOUTEAU · ARCADIA · CHANDLER · DEEP FORK RIVER · MUSKOGEE · OKMULGEE · WEBBERS FALLS · TENKILLER FERRY · OKLAHOMA CITY · NORTH CANADIAN · HENRYETTA · EUFAULA · SALLISAW · Lee Creek · Big Mulberry Creek · L&D 13 · W. D. MAYO · OZARK · Big Piney Creek · Bayou Illinois · SHAWNEE · RIVER · FORT SMITH · RUSSELLVILLE · W. Fk. Ft. Romore · E. Fk. Ft. Romore · N. Fk. Cadron Cr. · NORMAN · ROBERT S. KERR · STIGLER · DARDANELLE · ARK. · MORRILTON · S. Fk. Cadron Cr. · HOLDENVILLE · San Bois Creek · POTEAU · Poteau · PETIT JEAN RIVER · BLUE MOUNTAIN · TOADSUCK FERRY · L&D 8 · CANADIAN RIVER · McALESTER · WISTER · OKLAHOMA · ARKANSAS · FOURCHE LA FAVE RIVER · NIMROD · MAUMELLE R. · MURRAY · LITTLE ROCK · DAVID D. TERRY · WHITE RIVER · Big Bayou · Plum Bayou · Maple Bayou · L&D 5 · L&D 4 · PINE BLUFF · L&D 3 · ARKANSAS POST · NORRELL · L 2 · D 2 · MISS. R.




DEPT. OF THE ARMY, TULSA DISTRICT CORPS OF ENGINEERS

## CHAPTER XI

*Repent ye, repent ye, for the indifference to the great resources God has given us, for the failure to even grasp their significance!* [1]

The work of the Tulsa District on the projects and studies considered in the last chapter was not without its problems. Nor were the construction of the navigation system and the operation of the Corps-built facilities in the District. This chapter will deal with the building of the waterway, land acquisition and relocation policy of the District with emphasis on their relation to the waterway, and the fulfillment of the operations function of the District with regard to its completed projects. This latter can be separated from the other, but the first two are intertwined and both are related to what Congress and the Executive did regarding fiscal policy.

Between authorization in 1946 of the plan proposed in the report of the survey board, printed as House Document 758, 79th Congress, 2d session, (see chapter VI) and completion of the navigation system there were several changes and, of course, decisions on options left open in the report. These modifications were in keeping with the intent of the survey board and also the procedure by which the Corps of Engineers functions. Study of a project never ceases, not even after it is completed. To trace all of the developments is too intricate a process to be undertaken here, but the reader may, in fact is urged to, enhance his understanding by study of the detailed tabulation of the major changes and cost estimates as set forth in Illustration IV. He may well make use of Illustration III in connection with it. Undoubtedly the engineers who conceptualized the project in the 758 Report understood remarkably well the problems involved and envisioned, if not the exact solutions, how the application of engineering principles would determine the solutions.

The Vicksburg, Little Rock, and Tulsa Districts were doing planning incidentally on programs that would be related to the waterway by the time of authorization in 1946. Between 1949 and 1952 the district engineers of the three districts met 12 times as the Arkansas River Board which was concerned with the planning and construction for the total multiple-purpose plan. This Board was supported by an engineering committee whose membership and that of its subcommittees came from the staffs of the three districts. Staff members from the Office of the Chief, the Lower Mississippi River Division, and the SWD Office participated, and at the sixth meeting of the Board, the DE from the Albuquerque District was present. The Board and the Engineering Committee concerned themselves with such topics as the plans for control of sediment, choice of a route below Pine Bluff, the possible elimination of the planned locks in the Arkansas portion, the order in which construction should be carried out, the length of time over which construction should be projected, and how best to stabilize the channel. Discussion ran the gamut of engineering considerations.

The Vicksburg and Tulsa representatives were often in disagreement, with those of Little Rock figuratively in the middle. Vicksburg favored bringing in outside consultants who had had experience on the Missouri and Ohio Rivers, building one of the lock and dam structures and studying its operation before designing others, doing the construction in the lower part of the system before that of the upper part, and extending construction over a longer period of time. The Tulsa people argued against most of these positions. Tulsa believed construction should be projected on a 10-year basis; Vicksburg preferred 20 years, indicating that funding would probably expand that into 25-30 years. Tulsa was able to show that a better benefit/cost ratio could be obtained on the shorter construction projection. All seemed to believe that it would be necessary to build upstream reservoirs in Oklahoma and the Dardanelle Lock and Dam early in order to gain popular support. It was understood that the Waterways Experiment Station at Vicksburg would construct working models. Few questions had been settled with finality by the time the Board was disbanded in 1952 due to inadequate funding for planning which, of course, was related to the Korean crisis.

Among the engineers from the Tulsa District who participated, in addition to the DEs, were Henry K. Shane, D. P. Grosshans, and A. B. Bastos,

[1] Clarence F. Byrns told the audience at a luncheon in his honor at Muskogee that he, like John the Baptist, had been crying this message for years. *Tulsa Tribune*, 6 Aug 64.

all of whom served the District to the period 1964-67. More significant is the fact that Myron DeGeer was involved. He was at the time the Head, Reports Section of the Planning Branch and that probably accounts for the fact that most of what was written for the Tulsa District in these activities bore his name. He had participated in preparation of the 758 Report; soon after M. W. Parse became chief of the Engineering Division in 1951 DeGeer became his assistant chief; and in 1963 when Parse retired DeGeer succeeded him and continued as Chief, Engineering Division, until his retirement in 1974. DeGeer then is the one high level engineer whose involvement in the waterway project extends from beginning to end, and it was a growing involvement in which he earned the recognition that the highest civilian position in the District should merit.[2]

In July 1954 representatives of the three districts, SWD, and AWRBIAC met in Tulsa to consider activating the planning for development of navigation on the Arkansas at a time when it was in the "deferred for restudy" category. The next year Congress began to make money available for planning, and by 1958 funding was getting ahead of the Corps' capability to use it. Senators Kerr and Ellender wanted to appropriate more money for Keystone and Eufaula than BG L. E. Seeman told their subcommittee the Corps could use. Kerr tended to blame the Budget Bureau, but Seeman insisted that relocation of highways, railroads, and utilities had to keep pace with construction and it was not doing it.[3]

BG William Whipple succeeded Seeman as SWD Engineer in June 1958. Seeman had been in the position nearly 4 years. Some said that Whipple, who earlier had opposed the navigation project, was instructed to expedite the work on the navigation plan. He seemed also to interpret his mission in that way. On his first visit to Tulsa after becoming Division Engineer, he admitted, according to the press, that in the years 1952-55 he was, as were Generals Sturgis and Itschner, reluctant about starting the project. "The Arkansas is a billion-dollar project, and that's not something to jump into lightly," he commented. But now that the Engineers have a clear mandate from Congress, they intend to build it. And he knew "of no insurmountable barriers . . . nothing that cannot be overcome."[4] The *Tulsa World* of 26 November 1958 reported that on a visit to the city he said the engineers had "run into a formidable wall of unsolved technical problems in their work on the Arkansas basin project." He added, "This is one of the most complicated projects the Corps of Engineers has ever undertaken." General Whipple did not say so, but this fact may partly explain the earlier reluctance of high level Corps personnel to commit themselves to the project.

During Whipple's 2 years as SWD Engineer three consultants who were experienced in sedimentation studies were brought into the planning. They were: Prof. H. A. Einstein, famous son of a noted father, of the University of California, Berkeley; Prof. L. G. Straub of the University of Minnesota; and D. C. Bondurant of the Missouri River Division of the Corps. Their great contribution, universally acknowledged by Tulsa District engineering personnel familiar with it, was not so much innovative as to solutions to the sedimentation problems as it was with regard to devising the means to determine whether the solutions proposed by the engineers of the Corps would work. The test of whether the upstream reservoirs in Oklahoma really trapped the silt was in the results in the stream as it crossed Arkansas. The Waterways Experiment Station constructed a large scale model by which tests were conducted "to determine the sediment carrying characteristics of a regulated channel under various conditions of contraction, and with reduced slopes." The Little Rock District carried on intensive analytical and design studies.

General Whipple wrote a scholarly paper describing the tests the three consultants had helped evolve and the results. His conclusion must have warmed the hearts of many engineers who had participated in planning the project:

> . . . It [the project] involves novel and complex problems from an engineering viewpoint. The initiation of construction of three of the major structures in 1955, at a time when preconstruction planning of the system as a whole was not very far advanced, represented great reliance upon the accuracy and correctness of the highly generalized pre-construction studies and certain very preliminary approaches.

[2] Account of Arkansas River Board is based on reading of minutes of 11 of 12 meetings and a large volume of related correspondence in TD Records.

[3] US Congress, Senate, Committee on Appropriations , *Public Works Appropriations, 1959,* Hearings before the subcommittee of the Senate Committee on Appropriations, 85th Cong., 2d sess., 1958, pt. 1, pp. 728-30.

[4] *Tulsa Tribune,* 17 Jul 58.

Fortunately, these conclusions require no major change in the scope and concept of the projects already under construction, except for a considerable reduction in the tailwater elevation of Dardanelle Dam, which was worked out on an interim basis prior to completion of more general studies involving the same principles. The writer and many others in the Corps of Engineers feel a profound relief that this great project, unprecedented in character, and initiated prior to the solution of all the recognized problems, is adhering to the early estimates and even indicating the possibility of savings. . . .[5]

General Whipple is an able engineer and scientist. His doubts were now removed. The three consultant scientists had confirmed the planning that had been done by the Corps of Engineers at the District level. Professor Einstein kept in close touch with the project throughout its progress. Whipple became convinced that important savings to the Federal Government would result from early stabilization of the banks and navigation channel of the Arkansas, and he explained that the river, once this was done, would perform tasks that might otherwise have to be done by construction crews. Besides, the problems of caving banks and the resulting siltation might be avoided. Despite his efforts and those of many others, it remained difficult to obtain funding approaching that which the Corps asked for in this category.

If General Whipple had been refreshing to promoters of the waterway, MG Robert J. Fleming, Jr. who succeeded him on 14 November 1960 as SWD Engineer was more so and in a different way. He was the guest at a dinner given in his honor by the ABDA on 23 January 1961 in Tulsa's Mayo Hotel. After a press conference at 5:30 P.M. and a reception of an hour, the dinner began at 7:00 P.M. The minutes of the ABDA for the dinner meeting record that he said near the end of his brief address that the Arkansas Basin was now a problem of economics. "To be completed in 1972-73—Nuts—If you give us the money we will expedite the program and could finish it in 1967."[6]

Senator Kerr soon knew of Fleming's remark. He contacted the Office of the Chief of Engineers asking to talk to Fleming and Major General Fleming was called into the Chief's office. The argument was now mainly between Fleming and B. J. Tofani, Chief, Programs Division, Civil Works, Office of the Chief of Engineers. Fleming was serious about the 1967 date. Tofani said 1970-71. Fleming agreed to buy 1970, and that date was given to General Itschner, still the Chief of Engineers. The party that went to see Senator Kerr was headed by MG William F. Cassidy, Assistant Chief of Engineers for Civil Works, and included Fleming, but not Tofani. There was some concern that the Senator would insist on the 1967 date. After he had been told of the decision, he asked General Fleming what happened to 1967. Fleming's reply compared himself to the man in the story who held out the bunch of carrots before the stubborn mule. Kerr laughed heartily and the date was settled.[7]

The completion date of 1970 was conditioned upon adequate funding, and an understanding to that effect was subsequently worked out with other members of the Congressional delegations. They and the Corps were now bound to a date, but the Corps would find it more difficult to fulfill its part of the bargain.

A crisis over funding and schedule did develop in 1964, but there was none during the Kennedy presidency. In some ways President John F. Kennedy needed Senator Kerr more than Kerr needed Kennedy, and with only a few exceptions Senator Kerr supported Kennedy's legislative program. In return, Kerr had some programs of his own. The economic recession which carried over from the last part of the Eisenhower administration was conducive to large public works expenditures, and the Arkansas River program benefited. Then too Kennedy favored Government development of natural resources.

Kerr saw to it that Kennedy understood the comprehensive plan for the Arkansas. In September 1958 as Senator from Massachusetts, Kennedy came to Oklahoma to speak on behalf of Democratic candidates, and Kerr, who never missed an opportunity to educate a colleague, took him on an aerial tour of Fort Gibson and Tenkiller, the sites of Eufaula, Keystone, and Oologah, and other parts of the basin. Newsmen aboard reported that Colonel Bristor provided the narrative on the plane's sound system and Kerr identified objects for Kennedy and answered his questions. At times

[5] William Whipple, "Arkansas River Plan," *Journal of the Waterways and Harbors Division,* ASCE, vol. 86, no. WW3, Sep 60, pp. 15-28.

[6] Minutes of the Meeting of the Board of Directors of the Arkansas Basin Development Association, Inc. 5:00 P.M., 23 Jan 61, and Minutes of the Banquet Meeting 7:00 P.M., 23 Jan 61. ABDA File.

[7] Interv, B. J. Tofani, 18 Jul 73.

Kennedy chided Kerr about his role in obtaining supporting legislation. Kennedy was impressed by the things he saw, and Kerr himself could not have written a better statement than that made by Kennedy: "We will have 300 million people in this country in another 50 years, and we must develop all our resources. The program outlined here will be almost of as much benefit, from a national sense, to us in Massachusetts as it will be for you." And he said that although Senator Kerr had been very articulate about it, "You don't get such a picture as this on the Senate floor."[8]

After he gained the presidency, Kennedy accepted an invitation to speak in late October 1961 at the opening of a highway in the Ouachita Mountains near the tiny town of Big Cedar, Oklahoma, and to be the overnight guest of Senator and Mrs. Kerr at their ranch home near Poteau. General Penney remembers well Senator Kerr's involving him. At the request of Don McBride, the District's huge relief map that operates with lights to help explain the comprehensive program was sent to the Kerr Ranch. On Saturday, the day before the President's visit, Senator Kerr himself called Penney and said, "I wonder if you would mind coming down in case there are any questions asked on this program about the project." Penney replied, "I'll be glad to." He and his Technical Liasion Officer, Locke Mouton, drove to the ranch and were waiting on the porch when the helicopter landed on the lawn bringing the Senator and the President from the ceremony. Kerr took Kennedy by the arm and brought him up onto the porch and over to the model and told him what it was. Then he called, "Oh Colonel Penney come over here." Penney went and was introduced to the President with the explanation that the Colonel had kindly consented to come down to greet him. Penney began telling him about the project with Kerr pointing out on the map the places that were mentioned. In about 30 seconds Kennedy was absorbed in Penney's discourse. He asked, "Is there a chair?" A folding chair was brought over and he sat down. Penney did a fast 10-minute briefing, with Kerr still doing the pointing, after which the President asked a couple of questions and then said, "Thank you very much Colonel." Undoubtedly the briefing had worked out just as Kerr had planned. Penney had not been expecting to brief the President of the United States. He remembers, "I wrote up a report of what I had said, word for word, [and] fired a copy to Dallas and one to Washington."[9]

The unexpected death of Senator Kerr on 1 January 1963 did not retard the cause as was at first feared, for Senator McClellan and Rep. Ed Edmondson moved in to fill the leadership vacancy caused by the loss of Kerr. Others in Congress worked harder. Don McBride was only momentarily without a base of operations. He was immediately placed on the payroll of the Senate Public Works Committee with the understanding that he would work from Senator Monroney's office on public works projects in Oklahoma. Monroney did not have an opening on his staff, but shortly the Water Development Foundation of Oklahoma, Oklahoma City, worked out an arrangement for McBride's compensation until Monroney could put him on his payroll. The members of the executive committee of the board of directors of the ABDA agreed that the ABDA ask for special membership subscriptions in order that the ABDA could contribute $7,000 annually for 2 years to the Water Development Foundation. The action was reported to the board of directors as taken to secure "the technical services which they have available."[10] Subscriptions to this fund which kept Don McBride on the job came from several towns in addition to Tulsa.

Making schedule or keeping the waterway project on time had become nearly an obsession with its supporters by the time of the Kennedy assassination on 22 November 1963, but the ascension of Lyndon B. Johnson to the presidency caused no alarm on that score. There had been a long friendship and working relationship between Johnson, Kerr, and McClellan, and Johnson had many ties to the area the waterway would serve.

When the Johnson budget recommendations were announced on 21 January 1964 the waterway

[8] Roy P. Stewart, "Kennedy Views Arkansas Basin," *Oklahoma City Daily Oklahoman*, 17 Sep 58; Troy Gordon, "Sen. Kennedy 'Impressed' by Tour of Area's Lakes," *Tulsa World*, 17 Sep 58; Nolen Bullock, "Kennedy Puzzle Unfolds at 'Love Feast'," *Tulsa Tribune*, 17 Sep 58.

[9] Interv, LTG Howard W. Penney, 19 Jul 73.

[10] Minutes of Board of Directors of ABDA, 6 Feb 63. ABDA Files; McBride Tape.

# McCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM
## ANNUAL ESTIMATED COST
## (Thousands of Dollars)

**Legend:**
FC = flood control
WS = water supply
N = navigation
P = power
L&D = locks and dams
HD = House Document

| Feature | Stream | Miles Above Mouth | HD 758 | 1946 | 1947 | 1948 | Other Authorities | 1949 | 1950 |
|---|---|---|---|---|---|---|---|---|---|
| **Upstream Lakes** | | | | | | | | | |
| Oologah Lake-FC, WS, N, & P | Verdigris | 90.2 | 14,665 | 14,665 | 19,776 | 31,050 | 539.0 | Keystone Lake | — | 89,650 |
| Eufaula Lake-FC, P, & N | Canadian | 32.3 | 54,395 | 69,500 | 69,500 | 118,500 | 90.0 | Oologah Lake | 38,760 | 31,360(1) |
| | | | | | | — | 27.0 | Eufaula Lake | 130,000 | 132,180 |
| Subtotal | | | | | | | | | | |
| Blackburn Lake | Arkansas | 571.9 | 14,267 | 14,267 | 14,267 | 14,267 | 571.9 | Blackburn Lake | 30,720 | — |
| Mannford Lake | Cimarron | 20.4 | 17,635 | 17,720 | 17,720 | 34,680 | 20.0 | Mannford Lake | 34,680 | — |
| Taft Lake | Arkansas | 472.0 | 20,325 | 20,325 | 20,325 | 20,325 | 472.0 | Taft Lake | 48,370 | — |
| Markham Ferry Lake | Grand (Neosho) | 48.7 | 19,295 | 25,475 | 25,475 | 32,750 | 47.0 | Markham Ferry Lake | — | — |
| Fort Gibson Lake | Grand (Neosho) | 7.7 | 21,435 | 33,760 | 39,600 | 46,646 | 7.7 | Fort Gibson Lake | — | — |
| Tenkiller Ferry Lake | Illinois | 12.9 | 14,500 | 22,750 | 22,750 | 24,250 | 13.0 | Tenkiller Ferry Lake | — | — |
| Pensacola | Grand (Neosho) | 77.0 | — | — | — | — | — | | | |
| **Main Stem Lakes** | | | | | | | | | |
| Webbers Falls L&D | N&P Arkansas | 432.3 | 26,118 | 26,118 | 26,118 | 26,118 | 432.3 | Webbers Falls L&D | 57,020 | 57,020 |
| Short Mountain L&D | N&P Arkansas | 395.4 | 40,083 | 40,083 | 40,083 | 40,083 | 395.4 | Short Mountain L&D | 81,690 | 81,690 |
| Ozark L&D | N&P Arkansas | 319.0 | 23,941 | 23,941 | 23,941 | 23,941 | 319.0 | Ozark L&D | 44,069 | 44,069 |
| Dardanelle L&D | N&P Arkansas | 258.2 | 40,874 | 40,874 | 40,874 | 40,874 | 258.2 | Dardanelle L&D | 76,700 | 76,700 |
| Subtotal | | | | | | | | | | |
| **L&D** | | | | | | | | | |
| Lock 1 | Navigation Route | 0.5 | — | — | — | — | — | | | |
| Dam 1 | White River | 7.2 | — | — | — | — | — | Pool 1 (Mi 12.0-0.5) | 22,888 | 22,888 |
| Lock 2 | Navigation Route | 12.0 | — | — | — | — | — | | | |
| Dam 2 | Arkansas | 16.8 | — | — | — | — | — | Pool 2 (Mi 21.4-12.0) | 21,677 | 21,677 |
| Lock 3 | Arkansas | 21.4 | — | — | — | — | — | | | |
| Dam 3 | Arkansas | 51.9 | — | — | — | — | — | Pool 3 (Mi 72.9-21.4) | 19,665 | 19,665 |
| L&D 4 | Arkansas | 72.9 | — | — | — | — | — | Pool 4 (Mi 88.7-72.9) | 16,806 | 16,806 |
| L&D 5 | Arkansas | 88.7 | — | — | — | — | — | Pool 5 (Mi 106.4-88.7) | 18,303 | 18,303 |
| L&D 6 | Arkansas | 106.4 | — | — | — | — | — | Pool 6 (Mi 127.8-106.4) | 19,405 | 19,405 |
| L&D 7 | Arkansas | 127.8 | — | — | — | — | — | Pool 7 (Mi 145.7-127.8) | 17,696 | 17,696 |
| L&D 8 | Arkansas | 145.7 | — | — | — | — | — | Pool 8 (Mi 154.0-145.7) | 15,227 | 15,227 |
| L&D 9 | Arkansas | 154.0 | — | — | — | — | — | Pool 9 (Mi 171.4-154.0) | 23,111 | 23,111 |
| L&D 10 | Arkansas | 171.4 | — | — | — | — | — | Pool 10 (Mi 185.6-171.4) | 17,505 | 17,505 |
| L&D 11 | Arkansas | 185.6 | — | — | — | — | — | Pool 11 (Mi 200.3-185.6) | 17,553 | 17,553 |
| L&D 12 | Arkansas | 200.3 | — | — | — | — | — | Pool 12 (Mi 219.7-200.3) | 17,432 | 17,432 |
| L&D 13 | Arkansas | 219.7 | — | — | — | — | — | Pool 13 (Mi 232.7-219.7) | 18,532 | 18,532 |
| L&D 14 | Arkansas | 232.7 | — | — | — | — | — | Pool 14 (Mi 245.3-232.7) | 16,732 | 16,732 |
| L&D 15 | Arkansas | 245.3 | — | — | — | — | — | Pool 15 (Mi 258.2-245.3) | 18,037 | 18,037 |
| L&D 19 | Arkansas | 298.5 | — | — | — | — | — | Pool 19 (Mi 319.0-298.5) | 16,880 | 16,880 |
| L&D 22 | Arkansas | 340.0 | — | — | — | — | — | Pool 22 (Mi 352.8-340.0) | 18,176 | 18,176 |
| L&D 23 | Arkansas | 353.0 | — | — | — | — | — | Pool 23 (Mi 364.5-352.8) | 20,766 | 20,766 |
| L&D 24 | Arkansas | 364.5 | — | — | — | — | — | Pool 24 (Mi 376.2-364.5) | 18,120 | 18,120 |
| L&D 25 | Arkansas | 376.2 | — | — | — | — | — | Pool 25 (Mi 395.4-376.2) | 20,550 | 20,550 |
| Lock 1 | Verdigris | 3.7 | — | — | — | — | — | | — | — |
| Dam 1 | Verdigris | 4.0 | — | — | — | — | — | Pool 1 (Mi 19.4-4.0) | 10,020 | 10,020 |
| Lock 2 | Verdigris | 19.2 | — | — | — | — | — | | — | — |
| Dam 2 | Verdigris | 19.4 | — | — | — | — | — | Pool 2 (Mi 37.2-19.4) | 7,810 | 7,810 |
| Lock 3 | Verdigris | 36.9 | — | — | — | — | — | | — | — |
| Dam 3 | Verdigris | 37.2 | — | — | — | — | — | Pool 3 (Mi 52.0-37.2) | 8,100 | 8,100 |
| Subtotal | | | (186,944) | (186,944) | (186,944) | (186,944) | | | | |
| Maintenance & Repair Fleet & Marine Terminals | | | 4,000 | 4,000 | 4,000 | 4,000 | — | Dredging Plant incl Channel Snagging & Dredging | 8,400 | 8,400 |
| Verdigris River Channel Cutoffs, Enlargement, & Canals | | | 24,001 | 24,001 | 24,001 | 24,001 | — | Verdigris River Channel Cutoffs, Enlargements, & Canals | 17,500 | 17,500 |
| Navigation L&D & Bank Protection | | | 186,944 | 186,944 | 186,944 | 186,944 | — | (Bank Protection Costs incl in Pool Costs) | — | — |
| Initial Snagging | | | 200 | 200 | 200 | 200 | — | (Snagging incl with Dredging Plant) | — | — |
| Subtotal | | | | | | | — | — | — | — |
| **Navigation Aids** | | | 1,105 | 1,105 | 1,105 | 1,105 | — | — | 1,105 | 1,105 |
| **TOTAL** | | | 523,783 | 565,728 | 576,679 | 669,734 | — | **TOTAL** | 970,005 | 940,665 |

| Feature | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 | 1957 | 1958 | 1959 |
|---|---|---|---|---|---|---|---|---|---|
| **Upstream Lakes** | | | | | | | | | |
| Keystone Lake (Mi 538.9) | 126,750 | 127,684 | 135,650 | 153,000 | 137,000(1) | 137,000(1) | 137,000(1) | 137,000(1) | 137,000(1) |
| Oologah Lake | 33,040(1) | 29,580(1) | 31,420(1) | 31,420(1) | 36,100(1) | 36,100(1) | 36,100(1) | 40,000(1) | 40,000(1) |
| Eufaula Lake | 139,200 | 139,450 | 148,950 | 153,000 | 153,000 | 153,000 | 153,000 | 157,000 | 157,000 |
| **Main Stem Lakes** | | | | | | | | | |
| Webbers Falls L&D | 66,960 | 67,600 | 72,410 | 75,300 | 56,300(1) | 56,300(1) | 56,300(1) | 60,400(1) | 60,400(1) |
| Short Mountain L&D | 101,300 | 102,315 | 111,270 | 116,000 | 95,500 | 95,500 | 95,500 | 101,000 | 101,000 |
| Ozark L&D | 46,744 | 48,800 | 52,700 | 54,800 | 31,300(1) | 31,300(1) | 31,300(1) | 36,300(1) | 36,300(1) |
| Dardanelle L&D (Mi 257.8) | 80,838 | 84,600 | 91,000 | 94,600 | 94,600 | 94,600 | 94,600 | 94,600 | 94,600 |
| **L&D** | | | | | | | | | |
| L&D 1 (Mi 10.3-5.7) | 16,190 | 19,665 | 20,995 | 21,667 | 23,450 | 23,430 | 23,500 | 31,170 | 31,170 |
| L&D 2 (Mi 13.2-10.3) | 9,630 | 9,900 | 10,640 | 10,980 | 11,300 | 11,280 | 11,300 | 14,050 | 14,050 |
| L&D 3 (Mi 37.7-13.2) | 24,810 | 25,445 | 27,174 | 28,044 | 28,700 | 28,700 | 28,700 | 33,830 | 33,830 |
| L&D 4 (Mi 51.2-37.7) | 17,620 | 18,150 | 19,630 | 20,258 | 20,110 | 20,120 | 20,100 | 21,900 | 21,900 |
| L&D 5 (Mi 65.3-51.2) | 16,730 | 17,230 | 18,620 | 19,216 | 29,440 | 29,470 | 29,400 | 39,050 | 39,050 |
| L&D 6 (Mi 128.0-65.3) | 21,150 | 21,780 | 23,550 | 24,304 | — | — | — | — | — |
| L&D 7 (Mi 145.0-128.0) | 15,950 | 16,600 | 18,000 | 18,800 | 17,400 | 17,400 | 17,400 | 20,200 | 20,200 |
| L&D 8A (Mi 153.5-145.0) | 16,904 | 17,600 | 19,100 | 19,900 | 18,500 | 18,500 | 18,500 | 21,500 | 21,500 |
| L&D 9A (Mi 170.9-153.5) | 22,217 | 23,100 | 25,000 | 26,100 | 24,200 | 24,200 | 24,200 | 28,900 | 28,900 |
| L&D 10A (Mi 193.0-170.9) | 16,149 | 16,800 | 18,200 | 19,000 | 17,600 | 17,600 | 17,600 | 20,300 | 20,300 |
| L&D 11A (Mi 208.2-193.0) | 15,149 | 15,700 | 17,000 | 17,700 | 16,500 | 16,500 | 16,500 | 19,000 | 19,000 |
| L&D 12A (Mi 227.9-208.2) | 16,356 | 17,000 | 18,400 | 19,200 | 17,900 | 17,900 | 17,900 | 21,000 | 21,000 |
| L&D 13A (Mi 257.8 to 227.9) | 16,940 | 17,600 | 19,100 | 19,900 | 18,600 | 18,600 | 18,600 | 21,500 | 21,500 |
| L&D 19A (Mi 319.0 to 301.8) | 15,204 | 15,800 | 17,100 | 17,800 | 16,600 | 16,600 | 16,600 | 19,500 | 19,500 |
| L&D 22A (Mi 376.2-346.5) | 20,355 | 21,100 | 22,800 | 23,800 | 22,000 | 22,000 | 22,000 | 26,400 | 26,400 |
| L&D 25 (Mi 395.4-376.2) | 27,850 | 28,265 | 30,195 | 31,400 | 31,700 | 31,700 | 31,700 | 34,000 | 34,000 |
| L&D 1 | 13,430 | 13,430 | 14,380 | 14,900 | 16,400 | 16,400 | 16,400 | 17,800 | 17,800 |
| L&D 2 | 14,160 | 14,211 | 15,195 | 15,700 | 13,500 | 13,500 | 13,500 | 14,900 | 14,900 |
| L&D 3 | 17,480 | 17,625 | 18,865 | 19,500 | 17,500 | 17,500 | 17,500 | 19,200 | 19,200 |
| Dredging Plant incl Channel Snagging & Dredging | 9,850 | 10,280 | 11,100 | 11,300 | 11,300 | 11,300 | 11,300 | 11,300 | 11,300 |
| Verdigris River Channel Cutoffs, Enlargements, & Canals | 17,500 | 17,845 | 19,130 | 19,900 | 19,300 | 19,300 | 19,300 | 13,200 | 13,200 |
| Dredging & Snagging | 21,310 | 18,610 | 19,940 | 20,800 | 21,300 | 21,300 | 21,300 | 21,600 | 21,600 |
| **BANK STABILIZATION** | 119,477 | 123,810 | 128,415 | 128,191 | 86,800 | 86,200 | 86,200 | 102,800 | 102,800 |
| — | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 |
| **TOTAL** | 1,099,693 | 1,120,025 | 1,198,379 | 1,248,930 | 1,106,350 | 1,105,750 | 1,105,750 | 1,201,850 | 1,201,850 |

| Feature | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Upstream Lakes** | | | | | | | | | | | | | | | |
| Keystone Lake | 111,000(1) | 107,000(1) | 127,000 | 127,000 | 127,000 | 123,000 | 123,000 | 123,540 | 123,660 | 123,680 | 123,901 | 123,747 | 123,840 | 123,747 | 123,840 |
| Oologah Lake | 39,200(1) | 39,200(1) | 39,800(1) | 39,800(1) | 40,300(1) | 40,646(1) | 44,050(1) | 43,550(1) | 45,100(1) | 46,200(1) | 46,200(1) | 46,718(1) | 46,718(1) | 46,718(1) | 46,683 |
| Eufaula Lake | 126,000 | 125,000 | 120,000 | 120,000 | 119,616 | 120,801 | 121,000 | 121,435 | 121,935 | 121,935 | 121,775 | 122,150 | 122,223 | 122,150 | 122,223 |
| **Main Stem Lakes** | | | | | | | | | | | | | | | |
| Webbers Falls L&D | 60,400(1) | 60,400(1) | 63,200(1) | 63,200(1) | 63,200(1) | 65,400(1) | 77,200 | 76,000 | 73,000 | 78,300 | 80,300 | 82,800 | 82,800 | 83,100 | 83,635 |
| Short Mountain L&D | 101,000 | 101,000 | 106,000 | 108,000 | 106,000 | 96,500 | 92,500 | 92,500 | 91,300 | 92,000 | 92,000 | 92,337 | 93,205 | 93,290 | 93,327 |
| Ozark L&D | 36,300(1) | 36,300(1) | 36,300(1) | 36,300(1) | 36,300(1) | 63,187 | 64,100 | 65,300 | 67,400 | 78,400 | 79,600 | 82,300 | 82,800 | 84,500 | 84,500 |
| Dardanelle L&D | 90,000 | 87,000 | 84,000 | 79,000 | 79,000 | 79,000 | 79,000 | 82,000 | 83,339 | 83,256 | 83,449 | 83,943 | 84,008 | 84,008 | 84,008 |
| **L&D** | | | | | | | | | | | | | | | |
| Norrell L&D (Mi 12.5 to 9.8) | 33,900 | 36,100 | 34,100 | 34,100 | 32,400 | 25,600 | 32,000 | 31,500 | 31,500 | 33,400 | 33,760 | 33,000 | 32,980 | 33,060 | 32,230 |
| L&D 2 (Mi 82.5 to 12.5) | 43,661 | 43,000 | 43,000 | 43,000 | 40,000 | 38,100 | 36,200 | 37,500 | 37,500 | 37,800 | 39,600 | 39,550 | 39,630 | 39,971 | 40,240 |
| L&D 3 (Mi 99.6 to 82.5) | 34,810 | 34,900 | 34,900 | 34,900 | 34,500 | 28,100 | 29,400 | 30,200 | 31,600 | 32,700 | 33,000 | 33,000 | 33,130 | 33,140 | 33,650 |
| L&D 4 (Mi 126.1 to 99.8) | 37,609 | 38,000 | 38,000 | 38,000 | 41,600 | 34,300 | 34,500 | 38,400 | 38,500 | 39,200 | 39,800 | 40,200 | 40,370 | 40,150 | 40,390 |
| L&D 5 (Mi 154.4 to 128) | 27,100 | 27,100 | 27,100 | 27,100 | 26,400 | 27,400 | 27,400 | 28,200 | 28,700 | 28,600 | 28,600 | 28,720 | 28,730 | 28,810 | 27,280 |
| David D. Terry L&D (Mi 171.8-154.4) | 32,300 | 32,900 | 32,900 | 32,900 | 39,900 | 46,100 | 49,600 | 51,200 | 55,100 | 58,100 | 58,800 | 59,500 | 59,920 | 60,040 | 60,300 |
| Murray L&D (Mi 200.5-171.8) | 21,400 | 21,400 | 21,400 | 21,400 | 22,600 | 26,600 | 26,400 | 27,900 | 27,900 | 29,400 | 29,100 | 29,240 | 30,310 | 30,450 | 32,660 |
| Toad Suck Ferry L&D (Mi 225-200.5) | 22,300 | 22,300 | 22,300 | 22,300 | 22,800 | 33,400 | 31,400 | 27,800 | 27,800 | 27,200 | 28,800 | 29,020 | 29,420 | 30,320 | 46,340 |
| L&D 9 (Mi 257.8-225) | 21,100 | 21,100 | 21,100 | 21,100 | 21,400 | 32,600 | 31,100 | 34,400 | 32,200 | 32,600 | 31,600 | 31,800 | 31,830 | 31,920 | 32,580 |
| L&D 11 (Mi 319-301.8) | 19,500 | 19,500 | 19,500 | 19,500 | — | — | — | — | — | — | — | — | — | — | — |
| L&D 13 (Mi 375.1-346.5) | 26,400 | 26,400 | 26,400 | 26,400 | 27,800 | 40,000 | 39,700 | 44,600 | 47,600 | 47,400 | 49,800 | 48,770 | 49,250 | 49,000 | 50,200 |
| Chouteau L&D (Mi 19.4 to 4) | 17,800 | 17,800 | 17,800 | 17,800 | 17,800 | 36,200 | 36,400 | 31,300 | 29,600 | 30,600 | 31,800 | 31,900 | 31,800 | 31,650 | 31,550 |
| Newt Graham L&D (Mi 37.2 to 19.4) | 14,900 | 14,900 | 14,900 | 14,900 | 14,900 | 41,300 | 41,100 | 39,500 | 39,500 | 41,300 | 43,400 | 44,300 | 49,260 | 43,950 | 44,150 |
| L&D 19 (Mi 52.0 to 37.2) | 19,200 | 19,200 | 19,200 | 19,200 | 19,200 | — | — | — | — | — | — | — | — | — | — |
| Snagging & Dredging Plant | 11,300 | 11,300 | 11,300 | 11,300 | 11,300 | 11,300 | 11,300 | 11,300 | 6,600 | 6,600 | 9,540 | 10,100 | 9,670 | 10,100 | 10,420 |
| Verdigris River Channel Cutoffs, Enlargements, & Canals | 13,200 | 13,200 | 13,200 | 13,200 | 13,200 | — | — | — | — | — | — | — | — | — | — |
| Dredging & Snagging | 27,200 | 27,200 | 27,200 | 27,200 | 27,200 | 500(2) | — | — | — | — | — | — | — | — | — |
| **BANK STABILIZATION** | 121,400 | 130,500 | 133,000 | 133,000 | 133,000 | 133,000 | 133,000 | 133,000 | 133,000 | 134,000 | 135,000 | 137,000 | 130,000 | 137,000 | 131,000 |
| **Navigation Aids** | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,450 | 2,250 | 2,268 | 2,268 | 2,268 | 2,268 | 2,268 |
| General Contingencies | 56,400 | 52,700 | 31,800 | 34,800 | 47,984 | 30,866 | 13,550 | 1,075 | — | — | — | — | — | — | — |
| **TOTAL** | 1,201,850 | 1,201,850 | 1,201,850 | 1,201,850 | 1,201,850 | 1,201,850 | 1,201,850 | 1,201,850 | 1,204,204 | 1,235,021 | 1,255,493 | 1,265,263 | 1,261,862 | 1,265,265 | 1,288,276 |

(1) Development for power production deferred
(2) Initial snagging in Little Rock District.

**HD 758**

The River and Harbor Act of 24 July 1946, approved the multiple-purpose plan recommended in HD 758, 79th Congress, 2d session. That plan included the features listed in the column entitled "HD 758." The cost estimates were based on comparable work during the period 1937 through 1940, except alterations. Bridge and structures across the waterway were based on costs prevailing in 1942 and 1943. According to cost indexes, the average cost of construction during 1937 through 1940 was about 20 percent lower than during 1942 and 1943. Pensacola Lake was in existence at that time.

**1946**

The Chief of Engineers Annual Report showed the estimated construction cost had increased to $565,728,000, including cost of upstream lakes in the comprehensive plan not directly supporting navigation and excluding bank stabilization. The increase was the result of updating costs of upstream lakes.

**1947**

The increase in cost to $577,039,000 is again attributable to construction cost increases for several of the comprehensive upstream lakes.

**1948**

Basic engineering studies for upstream lakes in the comprehensive plan revealed that the estimated costs for Eufaula Lake and Oologah Lake should be increased substantially. The studies showed a large amount of unforeseen relocation and alteration work would be needed for construction of those lakes.

**1949**

Initial studies of the locks and dams showed that construction costs had increased substantially since estimates were prepared for the survey report and reported in HD 758. It was also recognized that only upstream lakes which would directly support navigation should be considered a part of the navigation portion of the multiple-purpose plan. Eufaula Lake, Mannford Lake, and Taft Lake would directly support navigation because of sediment retention. Those three lakes were considered a part of the navigation project. Studies showed that Keystone Lake would replace Mannford Lake. Taft Lake, and the approved Blackburn Lake as well. Since the Chief of Engineers recommended that modification, Blackburn Lake was included in the 1949 estimate.

**1950**

The Flood Control Act of 17 May 1950, modified the plan by substitution of Keystone Lake for Mannford Lake and deleted Blackburn and Taft Lakes. The Oologah Lake estimate does not include development for power. That work on Oologah Lake was deferred. Ultimate development of Oologah Lake was also deferred until oil pools in the lake area have been depleted.

**1951**

By 1951, studies and investigations had progressed to where it was possible to eliminate four of the locks and dams along the waterway and estimated costs were refined. It was found that construction costs since 1948 had risen substantially. Also statutory and regulatory criteria changes for alterations and relocations caused increases in estimated costs for lands and damages. Storage in Keystone Lake for power production was increased from 100,000 acre-feet to 221,700 acre-feet, because of Federal Power Commission and Southwestern Power Administration comments. As reported in HD 107, 81st Congress, 1st session, the Arkansas River Board determined that the emergency program and continuing program of bank stabilization and channel rectification along the Arkansas River was a necessary part of the navigation portion of the multiple-purpose plan of development. The work was divided into 24 reaches based on engineering studies. Locks and Dams 14, 15, 23, and 24 were eliminated.

**1952**

Increases in construction and lands and damages costs raised the navigation project estimate to $1,120,025,000.

**1953**

Increases in construction and lands and damages costs raised the estimate to $1,189,-379,000.

**1954**

As studies for the upstream lakes supporting navigation continued, it was found that the top of flood control pool of Keystone Lake should be increased by 2 feet to provide the needed storage. More detailed lake area investigations found that alignments for road and railroad relocations must be revised, temporary rail runoffs provided during railroad relocations, and additional roads must be provided for access to isolated areas under the replacement-in-kind principle. All these factors, plus increased construction costs, combined to increase Keystone Lake estimated cost to $153,000,000.

**1955**

The plan was modified from mile 101.7 downstream to route the waterway by land cut to the White River at mile 17.2 by the North Bank Canal Route; thence downstream to mile 7.8, thence by land cut to the Mississippi River at a point 590.5 miles above Head of Passes, Louisiana. The cost for Dam 3 is included in the estimate for Lock 5 in the table. Dams 4 and 5 and Lock and Dam 6 were eliminated by the plan. The estimate in the table for Oologah Lake is for ultimate development which would provide water supply storage for navigation. Dredging costs include initial snagging work. The estimated costs shown for Webbers Falls Lock and Dam and Ozark Lock and Dam include development for power. The revised estimated costs for features of the plan were based on a reevaluation of the work involved. Since development for power production at Keystone Lake was not justified at that time, it was deferred and the estimate in the table does not include costs for that development.

**1960**

The plan was modified to route the navigation channel along the Arkansas River downstream to mile 42, thence by land cut designated as the Arkansas Port Canal to the White River at the mouth of Wild Goose Bayou; thence along the White River about 9 miles to the mouth of the Mississippi River at mile 590.5 above Head of Passes, Louisiana. The locks and dams (including mainstream lates) were reduced from 23 to 19 and were renumbered consecutively from the Mississippi River upstream to the head of navigation. The estimated cost for Eufaula Lake was reduced because of new alignments for relocations, favorable bids on relocations and main dam, and refinements in design and estimated costs. The estimated cost for Keystone Lake was reduced because of favorable bids for relocations and construction, and refinements in design and estimated costs.

**1962**

New studies showed that power facilities should be installed initially at Keystone Lake rather than be deferred.

**1963**

The name of Short Mountain Lock and Dam was changed to Robert S. Kerr Lock and Dam and Reservoir by Public Law 88-62.

**1964**

Lock and Dam 11 at mile 301.8 was deleted.

**1965**

Studies showed that power facilities should be installed at Ozark Lock and Dam initially rather than be deferred. Lock and Dam 19 was eliminated. In the table, the costs for dredging and Verdigris River channel cutoffs were included in the cost of the appropriate lock and dam. Lock and Dam 6 was named David D. Terry Lock and Dam. Newt Graham Lock and Dam 18 was moved to mile 26.8. Chouteau Lock and the Dam were located at miles 7.2 and 8.4, respectively.

**1966**

Studies showed that power facilities should be included initially in the Webbers Falls Lock and Dam project.

**1967**

Lock and Dam 14 was named W. D. Mayo Lock and Dam by Public Law 90-46. Ozark Lock and Dam cost for land acquisition increased substantially to include acquiring flowage easement to the 50-year sediment profile.

**1969**

Public Law 90-479 approved 12 August 1968 authorized 10 miles Sans Bois Creek navigation channel in Robert S. Kerr Lock and Dam and Reservoir.

**1970**

Lock and Dam 1 was named Norrell Lock and Dam. Lock and Dam 17 was named Chouteau Lock and Dam. Lock and Dam 18 was named Newt Graham Lock and Dam. Lock and Dam 7 was named Murray Lock and Dam. Lock and Dam 8 was named Toad Suck Ferry Lock and Dam.

**1971**

Public Law 91-611, approved 31 December 1970,, authorized construction of a bridge across Spaniard Creek which was removed during construction of Webbers Falls Lock and Dam.

**1974**

Public Law 93-251 reassigned power storage in Oologah Lake to water supply and authorized alteration of water supply system of Conway, Arkansas, at Federal expense.

partisans were jolted. He asked Congress for $84 million for the Arkansas project, approximately $40 million less than the Corps had said was needed to keep the project on schedule. A massive effort was now launched to obtain an appropriation large enough to keep the program from lagging. Arguments were advanced that it could take as many as 5 years to make up for the loss of a year on the schedule at this time and that the ultimate additional cost of the lost year could amount to $40 to $50 million. During the third week of February the ABDA sent Charles Gannaway, Colonel Wilson, Dean Hoye, and Glade Kirkpatrick of Tulsa and E. S. Stephens of Fort Smith to Washington to confer with their Senators and Representatives. The Congressional delegations agreed to make a strenuous fight. Don McBride and B. J. Tofani of the Corps were given the task of determining the absolute minimum required to keep the Arkansas on schedule. They came up with an additional amount of approximately $15,000,000 over the $84,000,000 recommended by the President. The Tri-state (Kansas had been included since 1958) Committee presentation was more forceful than ever at the committee hearings with members of Congress adding their support as never before. Powerful allies like Rep. Mike Kirwan of Ohio joined them. The extent of pressure on President Johnson is difficult to measure, but certainly efforts were made to influence him. The House added $5 million in its version of the appropriations bill, and there was hope the Senate would provide the additional $10 million.

President Johnson remained adamant until the evening of 29 July when he received a delegation that included the six Senators from Arkansas, Kansas, and Oklahoma; Representatives Albert, Steed, and Edmondson of Oklahoma; Representatives Trimble, Gathings, and Mills of Arkansas; and Don McBride. McBride has said that Elmer Staats of the Bureau of the Budget was at the President's side, and as the case was pressed by Senator McClellan the President asked Staats for and received, confirmation of figures which McClellan used. The President questioned each member of the delegation individually and found them in unanimous agreement. Then he reached under the blotter pad on his desk and pulled out a request for a supplementary appropriation in the amount of $19,800,000 for the Corps of Engineers, $14 million of which was for the Arkansas River navigation project. Both houses of Congress approved the addition and Johnson signed the bill.[11]

President Johnson gave the dedicatory address when Eufaula Dam was dedicated on 25 September 1964, having been invited before he yielded on the budget request. He commented that he had a prudent budget and "I was determined to keep it that way until Mike Monroney, Carl Albert, John McClellan and all this bunch of highjackers from Oklahoma came . . . and it cost me $14 million, but it got your Arkansas River back on schedule." And at another place in the address he said, ". . . as President, I am here to promise you that it will go on schedule."

Johnson's effort in 1964 to reduce expenditures was related to the tax reduction which was part of his program and which Congress enacted. On 28 June 1968 he signed into law the Revenue and Expenditure Control Act of 1968 (82 Stat. 251) which included a tax increase in the form of a 10 percent surcharge on individual and corporate income which the President had espoused. Following long controversy, Congress enacted the measure only after exacting a price: A $10 billion cut in projected FY 69 appropriations, a $6 billion reduction in FY 69 spending, an $8 billion recision of unspent prior year appropriations, and a cutback of approximately 245,000 civilian employees in the Executive Branch of the Government.[12] The disbursement limitations which were a part of the administration of this measure sometimes limited construction at a crucial stage of the navigation schedule, but otherwise funding was adequate from 1964 on.

Even before the target date of 1970 was set the District had run into problems of a type that were to plague it to the very end. These were the problems of relocations at the Oologah, Keystone, and Eufaula projects. Relocations are different from ordinary land acquisitions in that they involve provision for services to the public that may not be abandoned or discontinued as the result of a project. Relocations involve county and state roads, railroads, municipal facilities, schools, and utilities. To illustrate, if a project causes so many people to move away that

[11] Interv, B. J. Tofani, 18 Jul 73; McBride Tape; *ABDA Newsletter*, 31 Jan, 5 Mar, 1 Apr, 15 May, 10 Jul, 21 Aug, 26 Oct 64; and numerous *Tulsa Tribune* and *Tulsa World* articles.

[12] *Congress and the Nation 1965-1968*, p. 167. Pp. 167-79 are devoted to a discussion of this and related tax measures.


EUFAULA RESERVOIR
CONSTRUCTED
UNDER THE SUPERVISION
OF THE
UNITED STATES ARMY
CORPS OF ENGINEERS
TULSA DISTRICT
1956 1965
DIVISION ENGINEER: BRIG. GENERAL RICHARD H. FREE
DISTRICT ENGINEER: COL. HOWARD W. PENNEY (1959-1962)
DISTRICT ENGINEER: COL. JOHN W. MORRIS (1962-1965)
PROJECT ENGINEER: MR. WEBSTER L. BOLAND
BARGING AHEAD
ON THE ARKANSAS
DEDICATED BY
LYNDON B. JOHNSON
PRESIDENT OF THE UNITED STATES
25 SEPTEMBER 1964

there will no longer be a need for a school the district will be paid for the existing facilities, but if the school will still be required the Government has a responsibility to provide one at a new location. In the first instance the procedure would be a real estate acquisition, and in the second, a relocation. In the District organization the two functions are separate. The Acquisition Branch is in the Real Estate Division and the Relocations Branch is in the Engineering Division. Very few, if any, districts of the Corps have had a heavier load of real estate acquisitions and relocations in civil works than the Tulsa District.

The relocations problem came to a head first by reason of having Oologah, Keystone, and Eufaula, as well as other projects underway at the same time. The total estimated cost of Oologah as of 1971 was $46,718,000 and the cost of relocations (real estate acquisitions not included) was $11,873,713; for Keystone the cost was $123,747,000 and relocations amounted to $46,134,254; and for Eufaula the cost was $122,150,000 of which $47,253,723 was for relocations. Relocations of county and State roads on the three projects totaled nearly $55 million.[13] The engineering planning for relocations has to be integrated into the overall engineering, and construction has to be scheduled in with the other project construction in order that there be no timelag that prevents completion on time. In early 1958 in a talk to the ABDA in Tulsa, General Seeman complained, as he did later in the year before a Congressional committee, that appropriations for the start of the three projects had come before the Corps was ready. He also noted that there was a serious shortage of engineers and that the Corps was contracting for engineering services. It made no sense, Seeman thought, for either the Corps or engineering firms to recruit from the other's supply of engineers.

In 1958 Colonel Bristor named A. B. Bastos as special assistant to the District Engineer in charge of coordination of relocations. At that time Marvin Roberts was Chief, Relocations Branch, and his assistant was Marvin Johnson, now chief of the branch, whose work in the Relocations Branch began in 1946 and has continued to the present. Attorneys in the Real Estate Division work closely with the Relocations Branch. The two attorneys who have had this responsibility are James G. Dwen, Jr., now on the staff of the Office of Counsel, who was in the Real Estate Division in the late 1950s, and Anthony G. Kaprelos who joined the Real Estate Division in September 1959. Kaprelos worked gradually into relocations work. Both Dwen and Kaprelos are specialists in this field of law and both have responsibilities. The relocations attorney in Real Estate certifies the compensable interest of the owner in the property that entitles him to relocation and the extent of the obligation of the Corps to relocate before negotiations are begun. He sometimes participates in negotiations and he assists in the preparation of the contract. Dwen reviews the contract and his expertise may be used in any step of the process.[14]

Basic to any taking of property for public use is the Fifth Amendment concept of just compensation. In the case of relocations the application of this principle is complicated. Historically, the Corps has interpreted just compensation to be replacement-in-kind even though by the mid-1950s courts in isolated cases were establishing a trend toward acceptance of the view that replacement-in-kind was not enough. An examination of the situation with regard to highway relocations in the area of the Oologah, Keystone, and Eufaula projects will illustrate this point. Nearly every mile of the county and State roads that had to be replaced with a new system of roads at each project was badly outdated. To replace-in-kind was so patently absurd that it received no consideration. The new roads at least had to meet current standards, and it was desirable that future standards be anticipated so that they would not be outdated as soon as constructed. The counties and State could not possibly pay the cost of everything beyond replacement-in-kind. They did not have the resources to meet such demands caused by the three huge projects within the timespan of project construction, and possibly not even within the predicted life of the project. A way out had to be found. Whether county commissioners and State officials exploited the situation to the advantage of Oklahoma taxpayers is problematical.

After much negotiation and submission and rejection of plans, an understanding was reached that the Corps would pay the cost of rebuilding roads to

[13] See Illustration No. IV; relocation cost figures compiled for writer by S. Nadine Benton of Realty Audit Section.

[14] Interv, Marvin Johnson, 2 Feb 73, and conversations with Anthony G. Kaprelos and James G. Dwen, Jr.

current standards; that is, to the standards as shown by current traffic counts. Beyond this the State or county would pay for betterment to meet future standards. This understanding helped, but there were still many conferences between representatives of the Corps, the Bureau of Public Roads, the Oklahoma Highway Commission, county commissioners, and other public officials, including members of Congress. Still there were difficulties in financing State and county government shares.

Members of the Tulsa District who have worked in relocations believe that the experience here had great impact on the determination of national policy. The courts probably would have sustained the arrangements regarding highway replacement, but actually the arrangement coincided roughly with enactment in July 1960 of Section 207 of Public Law 86-645 (74 Stat. 500) which provided for replacement of roads to current standards of construction based on current traffic counts. Two years earlier, 3 July 1958, in Section 111 of Public Law 85-500 (72 Stat. 303) Congress authorized the Corps of Engineers to relocate any structure or facility of a local government unit utilized for a governmental purpose. Previously the practice had been to purchase such facilities as real estate acquisitions at the "market value." The Act did not establish the standards to which replacement must be built. Very often conflict developed between the Corps and local governments regarding the relocation of sewage outlets. Even where health and water pollution laws had been generally ignored before, they have been vigorously enforced in the case of relocations, thus making it necessary for the Corps to upgrade the facilities. In 1965 Congress clarified the matter with enactment of Section 309 of Public Law 89-298 (79 Stat. 1094) which amended Section 111, supra, by requiring that replacement facilities meet the minimum standards required by the state or its political subdivisions.

Here, perhaps it should be noted that the Corps does not relocate municipalities, but if a municipality relocates itself, the Corps will compensate it for the relocation of its structures and facilities, including streets. This has been the case with a few towns; Mannford, Oklahoma, which was inundated by Keystone Lake is an example.

The guidelines that are followed in the relocation or abandonment of railroads and utilities are mainly those that have been established through court rulings, and although they are complicated they seem to be adequate. They have involved the Tulsa District in considerable negotiation based on engineering evaluations and cost estimates made by District personnel. Railroad relocation and abandonment in the Keystone project which cost over $17 million illustrate the problem. Negotiations with the Saint Louis-San Francisco Railroad Company extended over 3 years before agreement was reached for relocation and alteration of approximately 15 miles of facilities. Negotiations with the Missouri-Kansas-Texas Railroad Company required more than 5 years to arrive at terms by which 24.5 miles between Osage and Sand Springs were abandoned and a 5.2 mile crossing near the upper end of the lake was relocated. The railroad received over $6 million for the abandonment which the Corps estimated was a saving of about $4¼ million from the cost of relocating the 24.5 miles. In the measure which in 1946 authorized the waterway, Congress expressed its intent that the entire cost of relocation of all crossings be borne by the Federal Government. This provision was in contrast to the Truman-Hobbs Act of 21 June 1940 (54 Stat. 497) which provides a cost-sharing formula where relocation or alteration of bridges is required by navigation projects on navigable streams.[15]

Given the complexities involved in relocations, one of the distinctive achievements of the Tulsa District was the handling of the negotiations and their implementation so effectively that relocations did not prevent the scheduled completion of any project. As will be noted later, an imposing effort was required in the last stages of construction of the waterway to make this so. Some of the relocations have attracted special attention. One of these involves the location of utilities, a railroad, and US Highway 69 on a single high roadbed in the Eufaula project.

In land acquisition, condemnation proceedings can always be resorted to if necessary to remove people and take over property. There are times when condemnation is the best means of handling

[15] Ibid; James G. Dwen, Jr., "Just Compensation and Railroads, Highways, Utilities, Pipelines and Governmental Facilities." Typed copy in possession of writer; COL Howard W. Penney to Don McBride, 27 May 60, Kerr Papers.

title or ownership problems, and it may well be the best method of arriving at value in some cases. The use of condemnation proceedings in land acquisition by the Tulsa District is neither higher nor lower than is usual; that is, it is about average. The success or failure of a land acquisition program is not measured by the incidence of condemnations. Instead, the smoothness with which land is acquired, the extent to which justice under the law is done to seller and buyer, and the degree to which schedule is met form a basis for judgment.

No one familiar with the record of the Real Estate Division of the Tulsa District is modest in his claims about it, and, above all others David Helms is credited with its success. General Morris characterized him as "the best real estate man in the country," and General Penney said of him, "The man is a genius!" A native of Mississippi, Helms joined the Corps in the Vicksburg District in 1936 where land acquisition by the Corps originated under the name of Land Section. Historically the Corps had used other agencies to acquire land for it. Helms was at Vicksburg and working in the Land Section when real estate acquisition policy of the Corps was in its formative years. He never worked at anything within the Corps except real estate. He moved to Little Rock in 1937 and also spent some time with SWD in 1946 before coming to Tulsa in 1947. He headed the Land Acquisition Branch and was assistant chief of the Real Estate Division when Colonel Bristor made him chief of the Division in 1958.

The heavy work related mainly to Keystone and Eufaula expanded the number of employees in the Real Estate Division from 70 to 178 between July 1958 and July 1961. In the same period the Division handled the acquisition of approximately $36 million worth of land. The basic organization of those years has continued. The Division has four separate branches: Appraisal, Acquisition, Planning and Control, and Management and Disposal. At different times the Division has had real estate field offices at Muskogee, Sand Springs, Hugo, Pawhuska, and Ponca City in Oklahoma; Emporia in Kansas; and DeQueen in Arkansas.

The tremendous civil works land acquisition program from 1958 to 1970 challenged the ingenuity of the entire real estate organization. Not only was the Division involved in acquiring land for Keystone, Eufaula, Oologah, and the navigation system, but it also was buying land in three states and five Federal judicial districts for those civil works projects other than the navigation system, which were under construction throughout the District in those years. Meeting construction requirements and closure dates was quite an accomplishment. One of the major responsibilities of the Planning and Control Branch was the scheduling and coordinating of land acquisition.

John D. Truett who succeeded Helms as chief of the Real Estate Division when Helms retired in 1970 had worked as a closing attorney, headed the Sand Springs field office for acquisition of lands for Keystone, and served as chief of the Acquisition Branch and assistant chief of the Division.[16]

Through 1953 the District acquired land in fee, the mineral rights usually along with it. In other words all the land needed in connection with a project was brought outright. After 1953 a flowage easement policy, known officially as "Joint Policy—Land Acquisition Reservoir Projects Department of Interior-Department of the Army," was used. The implementation of this policy normally resulted in the purchase of land for the damsite, construction area, permanent building sites, recreational areas, and land which would be flooded on an average of once every 5 years. Flowage easements were obtained on the remainder of the area. Partly the change of policy reflected a desire to remove from tax rolls no more land than was absolutely necessary. First cost was reduced, but management problems were increased.[17]

Relocations problems in the Tulsa District had an impact on national policies. Likewise, experiences in land acquisition, especially in the Oologah project, influenced a significant policy change in acquisition policy. David Helms' input helped bring it about.

Operation of the law of eminent domain can be an awesome thing no matter how well it is administered. One bad feature is the lapse of time between conception of a project and its actual completion. Policy formation and funding procedures contribute to this long timespan. If strong resistance

[16] Interv, David A. Helms, 5 Feb 73; Interv, John D. Truett, 7 Feb 73; various organization charts; TD Information Bulletin 2 (Jul 61):3-4; conversations with Kenneth W. Fielder, James G. Dwen, Jr., and Anthony G. Kaprelos.

[17] Interv, David A. Helms, 3 Feb 73; conversations with Kenneth W. Fielder.

**Relocations—Railroad, Highway, and Utilities Cross the South Canadian River**

is met, it prolongs the uncertainty. Oologah is an illustration of all of this. More than 22 years elapsed between Congressional authorization and the initial closing of the gates, and nearly a decade later the permanent pool was brought to its 638 level. Admittedly, resistance and planned delays to permit maximum recovery of oil and gas explain the passing of many of those years. The Tulsa District was the first one to have to tackle the difficult appraisal of oil and gas in the ground, for which there are few guidelines, on so large a scale. Helms turned to experts in the field, among them the Tulsa firm of Wanamaker and Keplinger whose two partners had international reputations for their knowledgeability in this field. It probably would have been easier if the producers had been major oil companies instead of independents and stripper-well operators, many of whom wanted to be paid the profits they expected ultimately to make. The disgruntlement spilled over to ordinary landowners, some of whom no doubt had legitimate complaints about what they interpreted to be a one-price, take-or-leave-it offer. Some accused the Corps of offering less than the appraisal.

In May 1960 Senator Kerr presided over hearings of the Subcommittee on Public Works concerning the land acquisition policies of the Corps of Engineers. Delegations were present from Kentucky, South Dakota, and from the Oologah project area in Oklahoma to criticize the Corps. Ed Edmondson courteously assisted his more than 25 constituents in getting their complaints heard by the subcommittee, but did not himself become involved. Sens. Karl E. Mundt and Francis Case of South Dakota and John Sherman Cooper of Kentucky were outspoken in support of their constituents, as were some House members from those states. MG William F. Cassidy, Assistant Chief of Engineers for Civil Works, was spokesman for the Corps and he had with him, to explain Corps policy and answer questions, four members of Corps personnel, including David Helms, who were involved in the real estate program. Helms only answered questions, but he did it impressively and with complete candor. No one denied procedures could be improved; General Cassidy thought thorough study by a commission desirable; but

Senators Kerr and Case wanted no such delay as that would entail.[18]

The aftermath of this hearing was the announcement of a new policy based upon the Land Acquisition Policy Act of 1960 (74 Stat. 503) approved 14 July 1960. It involved the making of two appraisals, often by independent appraisal contractors, followed by negotiations to purchase. David Helms commented about the new procedure:

> We started actually entering into true, realistic negotiations with the land owners. That created the healthiest condition under which we worked for my entire career, 35 years. There was never a time when we had as good an environment in which to work as when we were negotiating. It was difficult, it required some ingenuity, a lot of integrity .... We tried to listen ... he [the owner] felt like he had a little something to do with setting the price and he did.

This helped to eliminate "this breach that was developing where we were getting so much of this protest," Helms believed.

In 1962, the Department of Interior and the Department of the Army amended the 1953 Joint Policy governing the acquisition of land for lake projects. The 1962 policy was a combination of the pre-1953 and the 1953 policies. In the headwater areas where normally flowage easements would be all that were required for project operation, fee title could be acquired without additional congressional authority if the areas had substantial value for the protection or enhancement of outdoor recreation or fish and wildlife resources. The need, then, for fee or easement is based on project requirements and not a given elevation, and the decision as to which is required is made at the district level. The Tulsa District favors flowage easements where practicable.

Since 2 January 1971 when the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 Public Law 91-646 (84 Stat. 1894); became effective, the Real Estate Division has had the challenge of applying its provisions which make a whole new ball game out of acquisition. The policy established by Public Law 91-646 superceded a policy which began in 1952 with enactment of Public Law 534 (66 Stat. 624) by which owners of property acquired by the Government could be reimbursed for relocation expenses up to 25 percent of the property's fair value.

Public Law 91-646 reflected the concern many people felt about persons who were living as owners or tenants in what can be considered substandard housing before displacement by projects of governmental agencies and who, after displacement, lacked either the know-how or the financial means, or both, to relocate. This happened at times even when property owners had received the market value for their property because its equivalent did not exist where they could find it. The legislation aimed at bettering the lot of many poorer people. Its ramifications will be far reaching because it applies to every kind of project that receives any Federal funding.

The Act authorizes reimbursement for actual moving expenses, including those incurred in searching for a new location, and losses resulting from moving, or an alternative payment in lieu of actual expenses of about $500 for a home and $2,500 to $10,000 for a business or farm operation. The measure provides for a replacement housing payment to enable the displaced person to relocate in a decent, safe, and sanitary home comparable to his former home. This payment (up to $4,000 for tenants and $15,000 for homeowners) is in addition to the purchase price received for the property. No purchase offer of less than the Government appraisal may be made to an owner and he cannot be required to surrender possession until that sum has been made available to him. Nor may the Government obtain possession before it has assured the availability of adequate replacement housing. The Government can as a last resort build, or arrange loans for building replacement housing, to assure its availability to displaced persons.[19]

Fortunately this new policy came at a time when the workload of the Real Estate Division was much smaller than it was in the late 1950s and the first several years of the 1960s. In 1971 the District began applying its provisions and accepted its challenges and opportunities. Administrative responsibility rests with the Management and Disposal Branch. A real ability to work with and understand people and to be able to communicate with them is required.[20]

Real estate acquisition problems notwithstanding, Oologah Dam was completed in 1963 and was

[18] US Congress, Senate, Subcommittee of the Committee on Public Works, *Land Acquisition Policies and Evaluation of Recreational Benefits,* Hearings before a Subcommittee of the Committee on Public Works, US Senate, 86th Cong., 2d sess., 16, 17 May 60.

[19] EP 1165-2-1, 28 Dec 72, p. A-75; 84 Stat. 1894.

[20] *Relocations Benefits to Persons Displaced By Army Land Acquisitions* (EP 405-1-1, Apr 73); Intervs, John D. Truett, 7, 14 Feb 73.

dedicated on 20 July with the Chief of Engineers, LTG Walter K. Wilson, Jr., making the principal address. Both Mike Monroney and Elmer Thomas participated. The dam was a compacted earthfill embankment with a gated conduit outlet works and an uncontrolled spillway in a natural saddle about 2 miles east of the left abutment of the dam. Later the uncontrolled spillway was changed to a gated spillway and the normal pool level raised from 608 where it had been for several years to a permanent pool level of 638. On 1 July 1972 the 638 level was reached after it had been slowly raised by stages, beginning in January 1971. The Oologah story involves almost every kind of problem that can be encountered in a multiple-purpose project and ought someday to be told in detail. One problem that cannot be ignored here is that caused by abandoned as well as newly purchased oil wells, although most of the technical and legal ins and outs of it will be omitted. Without regard to the legal obligations, the Corps wound up with the responsibility of plugging 7,604 oil wells many of which had been improperly plugged or not plugged at all. It was an expensive process, but more serious was the challenge of locating all of them. The Corps did the best it could, even hiring college students to search for them during summer months. This total operation delayed the filling of the lake and even accounts for the stage by stage impoundment between January 1971 and July 1972. Pollution from abandoned and operating oil wells and oil storage and conveyance facilities in the area even above level 661, the top of the flood control pool, continues to cause trouble. Legally the responsibility for handling this rests with the State Corporation Commission, but the Corps has found it has to pursue the problem vigorously. For months at a time an attorney in the Office of Counsel, has been concerned with nothing else except this pollution problem and has had full technical support from District personnel.[21] It should be said that, despite the delays, the Oologah Dam was ready on time to fulfill its functions related to the waterway.

Attitudes changed with progress on construction of Oologah. At one stage the people in the area favored keeping the permanent pool as small as possible with land available for agricultural purposes above that pool and also some oil production except when flooded. This attitude was replaced with one favoring as large a permanent pool as possible, in order that full recreational potential, with its economic benefits, be realized. Also leaders became impatient in the early 1960s and wanted the development completed and the property owners compensated in order that the inevitable readjustment and economic development could occur. There was even a move in Nowata to have the Corps study the feasibility of extending the navigation system to Oologah Lake.[22]

Keystone Dam was completed for flood control operation in September 1965, and the second of its two 35,000-kilowatt generating units went into operation in June 1968. A reregulating dam, located about 7 miles downstream from the dam, was completed in 1968 to regulate streamflow past the city of Tulsa following release of water for power generation. As mentioned earlier in another context, the Eufaula Dam was dedicated in September 1964 and was considered essentially complete by December 1964. Relocations had been the key to completion of Keystone and Eufaula from the beginning, but the District had succeeded in solving the engineering, negotiating, and construction problems so well that no other project on the waterway was adversely affected. Oklahoma's State Highway Department Directors deserve credit also.

It took more than success in relocations and property acquisition to build the waterway, and the reorganization within the Southwestern Division in 1961 which transferred military construction responsibilities to the Fort Worth and Albuquerque Districts from the Little Rock and Tulsa Districts permitted concentration on the Arkansas River project. Coincidental with this change, the Vicksburg District was relieved of its responsibility in the project. General Fleming, SWD Engineer whose remarks in Tulsa had led to moving up the target date to 1970, issued an order effective 5 April 1961 which assigned to the Tulsa District responsibility for planning and design of all the navigation locks on the waterway except the lock at Dardanelle Dam, for which the Little Rock District remained responsible. His memorandum spelled out details for cooperation between the two Districts and provided that the Tulsa District would be reimbursed by the Little Rock District for its design of the locks within that District. Possibly the work the

[21] Interv, Jack L. Crawford, 19 Sep 74; Statistical information supplied by Jack L. Crawford; Interv, John Chronister, 14 Mar 73.

[22] Numerous letters from Nowata residents in Kerr Papers.

Tulsa District had been doing in design influenced General Fleming's decision. The *Monthly Personnel News Bulletin* of the Tulsa District had reported in its 1 October 1959 issue that "establishment of the new Design Branch in the Engineering Division to take care of an unusually heavy workload is proceeding on schedule." Personnel were being recruited on a Corps-wide basis from surplus engineers in other districts.

Manpower status changed the intent of General Fleming's order slightly, for the Little Rock District did design the lock at Ozark as well as that at Dardanelle. Design of all the other locks in Arkansas (1-9, 13) was Tulsa's responsibility with the Little Rock District responsible for construction of all the locks and dams within Arkansas. Lock and Dam (L&D) 5 in Arkansas is situated on tertiary clay and rests on a bathtub design base. Due to manpower shortage at the time, the New York engineering firm of Moran, Proctor, Mueser & Rutledge was contracted to design it. At L&D 4 in Arkansas the Saint Louis engineering firm of Fruco and Associates conducted pile testing for the District at the lock site. This operation involved driving a cluster of piling to a specified depth and then loading each to determine how much weight it could carry. Friction, point bearing, and tension factors were studied to aid in determining how many piling were necessary in each of the five structures that rested on piling. The Tulsa District designed the five locks and dams on the Oklahoma portion of the waterway except the locks at 15 and 16 which were designed by the Buffalo, New York, District.[23]

The first construction to begin in Oklahoma was in May 1964 at L&D 15 (Robert S. Kerr) and the last was in 1967 on L&D 18 (Newt Graham). L&D 14 (W. D. Mayo) was the first one opened to navigation, 24 October 1970. The others were all opened in December 1970 with L&D 18 being the last, on 30 December 1970. The start of each depended upon completion of design work and funding. The schedule was tight, even if the weather cooperated and all other factors meshed together perfectly. The work on the Verdigris included dredging and construction of channel cutoffs in addition to the lock and dam structures. The decision was made in 1965 to have only two locks and dams on the Verdigris instead of the three that had been in the plans to that time. Earlier the plans had been changed to provide that the locks on the Verdigris would have the same dimensions as those on the Arkansas.

The constant reexamination that characterizes design engineering is well exemplified in the navigation project. Significantly the first big breakthrough for the Corps of Engineers in its program of Value Engineering (VE) was in the Tulsa District in connection with the navigation project although it involved relocation structures instead of the major locks and dams. The concept of VE was adopted by the Corps in 1964 and in October of that year contracting officers began including Value Engineering Incentive clauses in construction contracts of over $100,000. Essentially, the Corps was telling the contractor that if he could come up with a more economical way of doing something required in the contract, the cost saving would be shared with him, usually on a 50-50 basis. Another aspect of VE is an in-house team effort to look at the design and specifications before they are implemented to determine if any savings can be achieved "consistent with the requirements for performance, reliability, quality, and maintainability."

The Tulsa District has made an enviable record of VE achievements. Every explanation of why this is so starts with the name of COL John W. Morris, the DE in 1964 who received the directive about inclusion of the clause in contracts and who thought it well to learn what VE was. It follows too that the District worked at it because Morris really believed in it. Harbridge House of Boston, one of three firms with the capability, was contracted to conduct two 40-hour workshops for engineers in the Tulsa District. The word got around and personnel from OCE, SWD, and other districts almost crowded the Tulsa people out of the first workshop. But this was only the beginning of the VE education program in the Corps and in the Tulsa District, where today over 95 percent of the engineers have had VE training. A. M. Smith, chief of the Design Branch, first headed the program in the Tulsa District, and Benjamin M. Danford was his Assistant Value Engineering Project Officer. In 1966 Danford was summoned to OCE to be chief of the Value Engineering Branch and to push the program Corps-wide. Ralph Jarboe succeeded him and in 1968 was named Value Engineering Officer and Special Assistant to the District Engineer. He is one of a small group who teach VE courses throughout the Corps.

[23] Interv, Reginald T. Kikugawa, 4 Sep 74; Arkansas River Navigation Projects—Pertinent Data Chart.

**Bridge Pier Protection on the Arkansas**

The breakthrough on the navigation system came about 9 months after the Harbridge House training when an in-house study team, performing functional evaluation of the approved design for bridge pier protection developed 21 alternatives to the accepted design. The result was a new design. On the seven structures in the Tulsa District the savings amounted to $4,360,000 and more than that on the 12 bridge structures in the Little Rock District, and the design has been applied by the Corps on other projects over the country since. Personnel selected to participate in the VE teams receive no additional pay for their accomplishments. The District has long had an Incentive Awards Program administered by a committee which receives suggestions. An individual can engage in a VE study on his own and use a VE form in submitting his suggestion from which he hopes to and often does receive a cash award.

The District conducted a VE Indoctrination Seminar for contractors in September 1965. Attendance at this seminar prompted Elmer C. Gardner to establish the position of Vice President for Research and Development in his organization, San-Ore Gardner (SOG), which was one of the District's largest contractors. It is significant that the firm won the contract for Webbers Falls Lock and Dam and achieved the first notable use within the Corps of Engineers of the Value Engineering Incentive Clause at this project. Eight of eleven value engineering change proposals submitted were implemented and resulted in incentive awards to SOG in excess of $115,000, with similar savings to the Government.

The in-house teams far exceed contractors in their achievements, partly because contractors are much more limited in the time they have for con-

sideration of design. Total VE savings in the Tulsa District to the end of FY 71 were $7,118,600.[24]

The Management Improvement program which goes on all the time is not unlike VE, and in this activity the Tulsa District has excelled. On 19 March 1965 Colonel Morris received from the SWD Engineer a Presidential Citation for the Tulsa District for saving more than $1.5 million in 1964 by reducing overhead and operating costs by improved management. Tulsa was the first Corps district and among the first Government agencies to receive this award from President Johnson who had asked for better Government at lower cost.

One of the important decisions in which Colonel Morris had a major part as the Tulsa DE was that locating the head of navigation and thus the turning basin. This decision was not one that could be made entirely upon the basis of engineering data because the Tulsa-Rogers County Port Authority, formed in 1961, was vitally interested in the location. By December 1963 the decision had been that the head of navigation would be generally in the vicinity of the mouth of Bird Creek and the tentative location of the turning basin was .8 mile above Bird Creek. The Tulsa-Rogers County Port Authority had favored the Bird Creek site after considering also a point further downstream on the Verdigris. Announcement was delayed until March by which time SWD and OCE had approved the District recommendation. Final determination of the turning basin awaited selection by the Port Authority of the public port location. However good the reasons for the head of navigation decision, it was the more costly of the possible locations because it involved relocation of the twin bridges of the Will Rogers Turnpike, the twin bridges of Highway 66, and the bridge of the Saint Louis-San Francisco Railroad.

Getting ready for navigation had begun. At Muskogee, where a bond issue of $4.3 million was voted, and at Tulsa, where two bond issues totaling $20 million have passed for land acquisition and development of port facilities, the process goes on.

No other Tulsa DE has ever had a challenge of the dimensions of the one COL Vernon W. Pinkey had during his more than 3 years in the District. He was not aware of that when he arrived in mid-March 1968, but it became apparent to him later in the month as he attended the annual meeting of the ABDA. When he saw who was there and heard what was said he knew for the first time that the District had something big going, something hot. His several trips to Dallas and Washington in the following weeks helped him understand that the prestige of the Corps of Engineers was on the line. The target date of 1970 for an operational navigation system had to be met!

Colonel Pinkey took measure of the situation. No changes in key personnel were needed; an organization of competent people already existed. He did, after a few weeks, settle one personnel question to the good advantage of his office and the District. Charles R. Flanery had been Acting Executive Officer for approximately 2 years. Pinkey immediately gave Flanery considerable responsibility and freedom and was pleased with the results. He soon asked Flanery if he wanted to be Executive Officer, and Flanery answered that he did if his work was to be like that which Pinkey had him doing. The "Acting" was then removed from the title and Flanery's position was designated Executive Assistant.

Flanery had expertise in fiscal management, and with the implementation of the Revenue and Expenditure Control Act of 1968 (discussed in chapter X) Colonel Pinkey found his knowledgeability indispensable. Appropriations for FYs 69, 70, and 71 were adequate, and such direct restrictions on obligation of funds as there were did not seriously jeopardize the navigation project. The problem came from the frequent limitations on the disbursement of funds. For instance, approximately $90 million had been appropriated for FY 69, and the District was well along in obligating it when it was told it could disburse only $60 million. This meant that in some instances contractors who had completed work could not be paid and some did not have reserves needed to do the work and wait for compensation. To keep the navigation project moving in these circumstances required ingenious internal maneuvering and reordering of priorities. Replacement of retirees, maintenance, some investigations, and noncritical contracts on projects other than navigation could be deferred. Handling of funds, in any case, had to be done carefully and legally.

[24] Interv, MG John W. Morris, 15 Mar 73; Interv, William Lemmon, 30 Jan 73; Interv, Ralph R. Jarboe, 7 Mar 73; *Value Engineering in Construction,* a textbook for courses in VE prepared cooperatively by Corps personnel, including Jarboe.


**Groundbreaking—Port of Muskogee**

Pinkey's big shock came when he learned that negotiations for four of the major railroad bridge relocations had not been completed, thus leaving about 2 years and 8 months to complete negotiations, design, contracts, construction, and then removal of the old bridge structures which could occur only after all the other steps. COL Harley W. Ladd, in his brief tenure, had with the assistance of Ray Broyles appraised this situation. These bridges were the Kansas City Southern across the Arkansas near Redland; a joint Missouri, Kansas & Texas-Missouri Pacific bridge over the Verdigris near Okay; the Saint Louis-San Francisco across the Verdigris between Highway 66 and the turning basin; and the Texas-Pacific bridge over the Sans Bois Creek arm of the Robert S. Kerr Reservoir. The Sans Bois Creek extension of the navigation system actually was authorized after Pinkey became DE. Public Law 90-479 (82 Stat. 705) provided for a channel in what would have been only an arm of the reservoir in order that coal produced in the area could be loaded on barges at docks at the end of the arm. The loading area is now Port Carl Albert.

The pace of negotiations now stepped up. Colonel Pinkey at times joined the negotiation team, headed by Marvin Johnson, a very unusual practice although Colonel Ladd had also done it on occasion. Every possible means was used to get the railroads to agree to reasonable terms. These efforts succeeded, but barely in time. The final bridge relocation contract for the crossing of the Verdigris at Okay by the Missouri, Kansas & Texas-Missouri Pacific Railroad (M-K-T) and Kansas, Oklahoma & Gulf Railroad (KO&G) was let to the Cook Construction Company of Jackson, Mississippi, in June 1969 with work orders effective 28 June and 480 calendar days to complete the job.[25]

It should be kept in mind that the dollar total of all the other things the District had going during this final push on the waterway exceeded that of the navigation project. These had to move along too,

[25] Intervs, COL Vernon W. Pinkey, 23 Aug 74; Jack L. Crawford, 13 Sep 74; COL Harley W. Ladd, 13 Dec 73; Charles R. Flanery, 6 Jun 72; *ABDA Newsletter,* 14 Jul 69.

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but from March 1968 another major part of "Pinkey's plight," as someone facetiously called it, was to instill a sense of urgency in every single person who had anything to do with making the two rivers navigable. There was never any letup on the pressure, but that alone would not do it. Every step had to mesh with every other step.

The Corps of Engineers in 1962 had decided to apply the Critical Path Method (CPM) of scheduling construction on the waterway. CPM, industry's adaptation of Program Evaluation and Review Technique (PERT) developed by the Navy and applied to the Polaris program, had been used successfully in missile base construction. In October 1962 Ling-Temco-Vought, Inc. of Dallas had been given a contract to prepare a CPM schedule on the entire Arkansas River project. Schedules were predicated upon 1968 for completion of navigation to Pine Bluff and Little Rock, 1969 to Fort Smith, and 1970 to Muskogee and Catoosa. In March 1963, Ling-Temco-Vought completed its contract, and all the information was placed in an IBM 7090 computer for programming. The network developed was concerned primarily with engineering for the project, and it was planned to extend the technique to other phases.[26]

It seems that the intent in 1963 of using Ling-Temco-Vought was not carried through, and by the time Colonel Pinkey became DE, personnel of the District frequently had to construct their own network, both to see where they were and also to provide the logic for the required sense of urgency. At this point Colonel Pinkey appointed Jack L. Crawford, whose experience in the Altus missile construction and Corps of Engineers Ballistic Missile Construction Office (CEBMCO) eminently qualified him as the coordinator of all the Oklahoma parts of the navigation project.

Colonel Pinkey saw to it that Crawford's authority equaled his responsibility, even to the

[26] BG C. H. Dunn, "The 'Critical Path' Down the Arkansas." Paper presented at meeting of the AWRBIAC, Sequoyah State Park, Oklahoma, 1 May 63.

point of telling the District Engineer what he wanted him to do, and he says Crawford was indispensable. Pinkey talks in the same manner about Ray Broyles, Chief, Construction Division. He also points out that there were staff positions whose functions were not related directly to construction of the waterway that were operating so well that they required practically none of his time and never caused him concern which left him free for the navigation project.[27]

The resident engineers for construction of the locks and dams knew their business. W. L. Boland who had been in charge of construction at Eufaula was resident engineer for L&D 14 (W. D. Mayo) and L&D 15 (Robert S. Kerr); W. F. Surbey was at L&D 16 (Webbers Falls); and Ralph Hoss and John C. Maples were resident engineers at L&D's 17 (Chouteau) and 18 (Newt Graham), respectively. Pinkey and Crawford did impress upon them their responsibility for pushing along every aspect of the work in their area such as clearing, channel work, and relocations. Crawford kept daily check on progress, and the CPM network underwent constant updating to show the logic of demands being made. Conferences went on endlessly with the construction people in highway and highway bridge relocation, railroad relocation, and the river work. Even the clearing of the reservoir areas was critical. At times contractors and the State Highway Department reached the point where they were ready to give up, saying "We can't do it." Then knowledgeable people were called in to "brainstorm" the problem until a solution was found. Often the Corps said, "How can we help?" Some of the contractors were so caught up in the mood of urgency that they went to unbelievable lengths to accomplish the seemingly impossible. In the last year, two young engineers who are no longer with the Corps did invaluable fieldwork for Crawford. They were of the second generation of Corpsmen: Web Boland who was W. L. Boland, Jr. and Kenny Smith, son of A. M. Smith. And incidentally, A. M. Smith, chief of the Design Branch is credited with finding the solution to many of the problems.

There is much more to the drama-filled story, but it is hoped that this sampling conveys something of the determination that produced an operational waterway on 30 December 1970. The margin was close. Even the well-plugging at Oologah was crucial, and the raising of the elevation of the water in the lake which was necessary to continue navigation of the Verdigris did not begin until 13 January 1971.

On 30 December 1970, at L&D 18, the Corps of Engineers' workboat *Sallisaw* and survey boat *Arkoma* locked through, signifying the official opening of the lock for navigation. On 31 December, BG H. R. Parfitt, SWD Engineer, and COL Vernon W. Pinkey sent this joint message to LTG F. J. Clarke, Chief of Engineers:

> Mission accomplished. Arkansas-Verdigris River System declared open for navigation at Catoosa on 31 December 1970. Included in party on inspection trip this date were Governor Dewey Bartlett, Congressman Ed Edmondson, and local dignitaries. Details follow. Happy New Year.

General Clarke had wired his congratulations in a message in which he said, "This schedule . . . has required unprecedented effort on part of the Corps, its contractors, as well as local interests, the Congress, and three presidential administrations. The engineering achievement is monumental and will continue for years to come to be used as an outstanding example of what can be done to meet a national challenge."

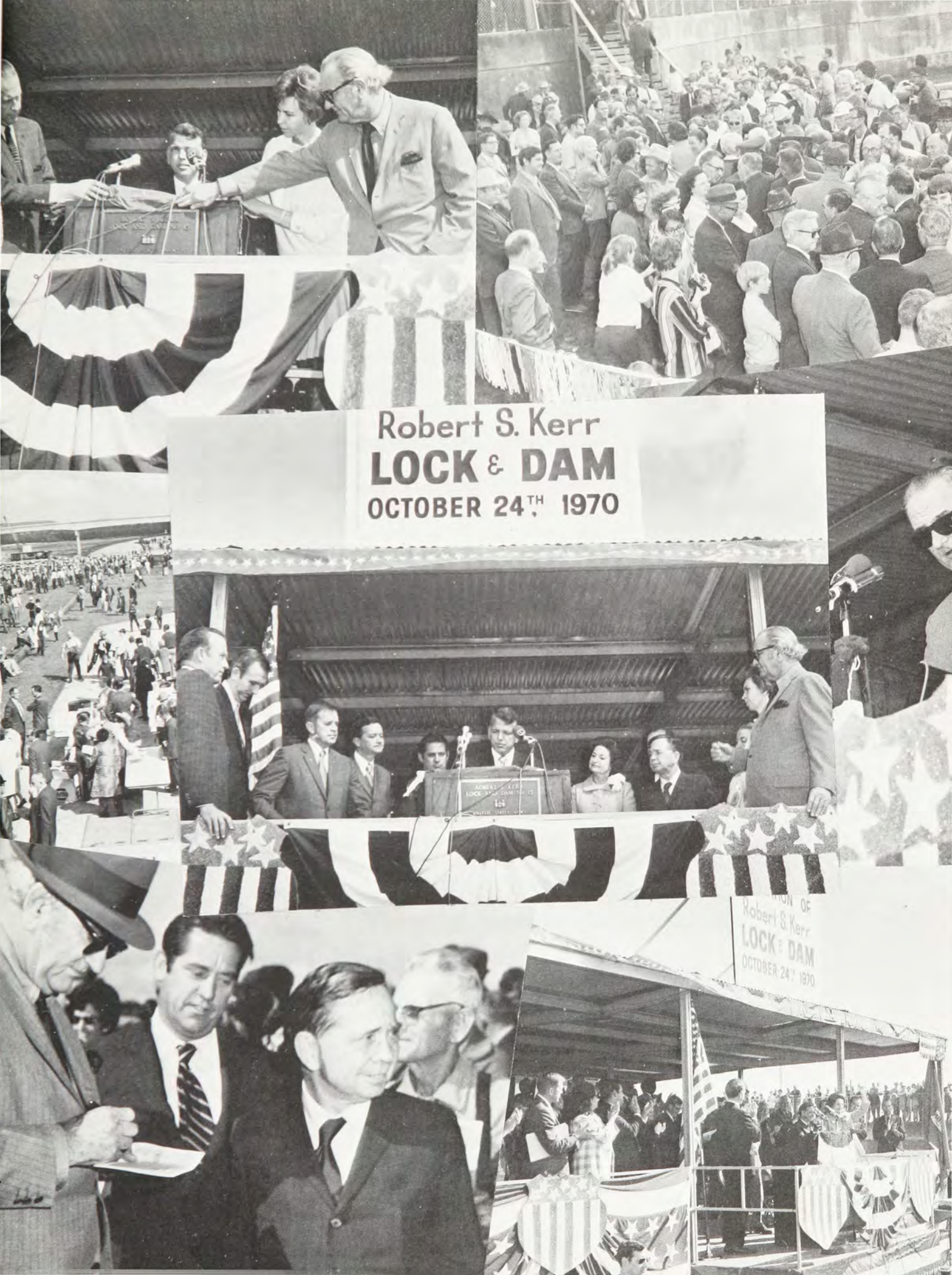
The first incoming cargo, 650 tons of newsprint from a Tennessee paper company for the Newspaper Printing Corporation, publishing agent of the *Tulsa World* and *Tribune,* arrived by barge on 21 January 1971 at the Port of Catoosa which was officially dedicated a month later, 20 February. C. William Verity, Jr., president of Armco Steel Corporation, gave the principal address in which he made a very sensible plea that growth be planned to match society's needs of livability. His concluding words:

> . . . I would urge that challenging objectives be set for this area's growth, objectives which balance idealism with realism. I would also urge that the temptation to push for dramatic surges in physical and economic growth rates be resisted, and that the development of this area be balanced on the foundation of prudence and consideration of all of society's needs.[28]

What does the Corps of Engineers do with its creations? Or better, how does the Tulsa District operate its finished projects? What does the comple-

[27] *Monthly Personnel News Bulletin* 1(1 Oct 59):4; *TD Information Bulletin* 7 (Dec 66):2; Conversations with Jack L. Crawford; Interv, Vernon W. Pinkey, 23 Aug 74.

[28] C. William Verity, Jr. "A Reminder: To Keep the Waterway Livable," *Tulsa* 48 (27 May 71):153-61.


Robert S. Kerr
LOCK & DAM
OCTOBER 24TH 1970

tion of the waterway and so many other of its projects mean for the future of the District?

The Operations Division, as its name implies, has primary responsibility in this area, but within the Engineering and Real Estate Divisions there are activities concerned with some operating responsibilities. Also the line of command regarding field offices results in involvement of staff level offices and divisions in matters of operation. There has to be a great deal of interdependence or lap-over. Reservoir management problems, for instance, are at times environmental matters. The Safety Office is concerned with water safety at every lake.

The Hydraulics Branch in the Engineering Division, carries a continuous responsibility for study of the hydrological aspects of the District projects. The section whose name was changed in July 1971 from Reservoir Regulation to Lake Hydraulics is involved in day-to-day, practical regulation of water levels and releases during normal, flood, and drought conditions. This section has available to it constantly the data from stream and lake gauging, measurement of precipitation, weather forecasting, and other related operations from all over the District. It maintains direct communication with other districts, other agencies at all levels of government, the Division, and construction and operation personnel in time of emergencies. It is the brain center for the control of the water in the lakes. In time of emergency there is a wide participation in decision-making among higher level personnel, but the input from this section and the recommendations of its chief are significant. Interestingly, this section is not highly automated although it does have computer terminals for use as needed. In large measure the dedication of the personnel who are considered "self-starters" makes the section function. Some of them have stream monitoring devices on their residence telephones, and they frequently leave home in the night during a rainstorm to take their stations without being called.[29]

The Management and Disposal Branch in the Real Estate Division is in a sense the business manager of surplus lands or lands that can be used by lessees between floodings, commercial concessions, licenses to governmental agencies, easement-granting, and sale of excess property. When the District had a military responsibility this branch's load in disposing of surplus property was great. It must work closely with the Operations Division, especially in recreational matters.

That the lakes constructed by the Corps of Engineers would become recreational paradises was inevitable unless they were surrounded with barriers such as high chain link fences or barbed wire barricades. Once lakes were there, people were going to use them. Sam Rayburn, knowing this, in November 1940 asked the Secretary of Interior to have the National Park Service study and appraise the recreational possibilities of the Denison project. The National Park Service conducted a preliminary investigation in 1941. Subsequently an appropriation was made (49 Stat. 1894) which enabled the Park Service to work out a plan for development and operation of recreational facilities at the project.[30] Lonnie C. Fuller was in charge in Denison of planning the program. For the next 3 years there was a growing movement among the civic and business leaders in Denison favoring the operation of the recreation program by the National Park Service.

Section 4 of an act of 22 December 1944 (58 Stat. 887, 889) authorized the Chief of Engineers to construct, maintain, and operate public park and recreational facilities in reservoir areas and to permit the construction, maintenance, and operation of such facilities. Possibly enactment of this measure was related to Sam Rayburn's moves to put the Park Service into the business of recreation at Corps of Engineers projects. COL Robert R. Neyland, Army football great who had left the Corps to coach football at Tennessee and had reentered military service as World War II came on, was SWD Engineer from October 1942 to June 1944. He and Colonel Wilson were close friends of long standing, and as they fished together they discussed the need for Corps development of recreation, and Wilson believes Neyland made a recommendation to the Chief of Engineers for legislation very much like that enacted.[31] However

[29] Intervs, Donald R. Henderson and Ross R. Copley, 19 Jan 73; various organization charts and District descriptions of organization and function.

[30] *Report on the Recreational Resources of the Dension Dam and Reservoir Project, Texas and Oklahoma, October 1943* (Washington, DC: US Government Printing Office, Reprint, 1945), p. x. Thomas Papers; *Denison Herald*, 30 Mar 43.

[31] Interv, COL Francis J. Wilson, 1 May 74.

this may be, the act put the Corps in the recreation business, and subsequently through additional legislation the Corps' recreational function evolved.

Some parts of the story from this point are missing, but the ones available do fit together. Civic leaders in Denison and other communities near Texoma had grown impatient and unhappy that Colonel Wilson had not moved quickly after the merging of the District to turn over to the Park Service the implementation of its plan for Texoma. Corps policy and intent were not clear, but Colonel Wilson, loyal as he was to the Corps, could not have wanted to abandon this new responsibility and opportunity to the National Park Service, and he had not been directed to do so. He did begin a recreational leasing program and such development of facilities as available funds permitted. The Park Service supporters turned to Sam Rayburn for help.

By April 1946 Colonel Wilson had been in Tulsa almost 3½ years—a long tour for a DE and no agreement between the Corps and the Park Service had been signed for the latter to take charge of recreation at Texoma. In April 1946 COL C. H. Chorpening had received orders to report to Saint Paul, Minnesota, to be DE of the Saint Paul District. Then Colonel Chorpening received a telephone call from General Wheeler, Chief of Engineers, in which he was told to report to the Office of the Chief the next morning; his orders to report to Saint Paul were canceled and he was going to Tulsa as DE. Early the next morning Colonel Chorpening reported to General Wheeler; 2 hours later he reported to Sam Rayburn. The Park Service was going to carry out its plans for Texoma. MG Chorpening says that General Wheeler briefed him very thoroughly on the issues and he was told that his primary responsibility as Tulsa DE was somehow to get the Park Service out of there and the recreation back under the Corps. Colonel Wilson was relieved as DE and given an assignment outside the United States. He chose to retire and become the director of the Noble Foundation at Ardmore, Oklahoma.[32]

Colonel Wilson's last day as DE was 8 April; on 16 April the agreement was signed between the Corps of Engineers and the National Park Service.[33] There was no way it could have worked, and Colonel Wilson no doubt knew it. The plans and hopes of the civic leaders were too grandiose for quick fulfillment, but immediate execution was expected. The Park Service plans called for purchase of additional land for which the Corps had no funds. Many actions of the Park Service required Corps approval. Local residents resented the construction of permanent residences for administrative personnel of the Park Service instead of recreation facilities. The pressure on Mr. Sam to get them out was building. Colonel Chorpening only had to let things run their course. The Park Service people asked him in 1949 to help to get the Corps to take the job back.[34] On 30 June 1949 the Corps assumed the administration again of the Lake Texoma recreation areas.

The man on whose shoulders the task of administering a recreation program for Texoma fell was a giant of a man physically, Robert F. Hunter. So many people characterize Bob Hunter as "one of a kind" that he must be even if they are not all agreed on the kind. Hunter, a native Alabaman, graduated in 1924 from Queens University, Kingston, Ontario, with a degree in civil engineering. His first work with the Corps was in 1927 in the Florida Everglades, but in 1932 he joined the Memphis District to work on the 308 Report, and continued to work for the Memphis District until his World War II service. A Canadian veteran of World War I, he was with the Army Combat Engineers in World War II and participated in the initial invasion landings on Omaha Beach in Normandy and on Okinawa in the Pacific. After the war service he joined one of his Memphis bosses, Colonel Wilson, in Tulsa.[35]

The Reservoir Management Division was established by Colonel Chorpening, effective 1 June 1946, with Bob Hunter as its head but bearing the title of director instead of chief. The name of the division was changed to Operations Division later.

[32] Ibid;, Recorded FONECON, MG C. H. Chorpening, 6 Mar 74; *Dension Herald,* 11 Mar, 25 Jul, 16, 17 Dec 45, 4, 27 Jan, 17 Mar, 17 Apr 46.

[33] News Release for Friday, 17 May 46 and attached copy of the agreement. TD History File.

[34] Recorded FONECON, MG C. H. Chorpening, 6 Mar 74; Conversations with many Tulsa District personnel.

[35] *Tulsa World,* 5 Jul 70; News Release, Tulsa District PAO, "Robert Hunter, 'Mr. Recreation' for Corps' Tulsa District, Retires"; Interv, Robert F. Hunter, 10 Oct 72.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Hunter already had available a park and recreation planner in Robert M. Black, a landscape architect and graduate of the University of Illinois who had worked for the National Park Service in Oklahoma in the years 1935 to 1940 before joining the Corps. From 1946 to his retirement in 1968, park and recreation planning was Black's field of specialization and work, even though he was transferred to the Engineering Division about midway of Colonel Bristor's tour as DE and was the first chief of the Environmental Resources Section as pointed out earlier. Hunter had a way of getting the most out of his good people by giving them an almost free rein as long as they did not get him in trouble. He was a man of vision when it came to seeing the potential for recreational development at Tulsa District projects, thus earning the sobriquet of "Mr. Recreation" in the Corps.

The first completed projects, Great Salt Plains and Fort Supply, provided the opportunity for development of the first master plans for recreation. The Park Service plan for Texoma was used as a model which Black adapted to the specific sites and financial resources of the District. The pattern for every lake has been to develop a master plan and to present it to the people of the area in a hearing which serves an informative purpose and also gives those concerned an opportunity to present their criticism. The plan is implemented as funding permits. The recreation function has grown as the emphasis on recreation in Corps activities has grown. Access roads, boat lanes, docks, picnic and camping areas, hookups for recreational vehicles, comfort facilities, swimming beaches, hiking trails, and countless other things are involved.[36]

For approximately 10 years, beginning in 1964 at Lake Texoma, the District leased cottage sites at lakes to individuals. After many persons had made sizeable investments in improvements on their leases, the nontransferable feature of the lease agreement became a matter of concern. Rep. Ed Edmondson then led a movement for legislation to require the Corps to sell these leased cottage sites as the leases expired, with the lessee having the first opportunity to purchase. If he did not exercise that option, the sites could be offered for sale to the highest bidder. In August 1956 Edmondson succeeded in obtaining the legislation (70 Stat. 1065). The Management and Disposal Branch has administered these sales, and there has never been an instance where the lessee did not exercise his option to buy.

Many private clubs hold leases at the lakes. A few park sites have been leased to cities, but Bob Hunter discouraged such arrangements if he noticed city officials "wince" when he told them the probable annual cost of maintaining a city park on a lake. On the other hand, he and his staff enjoyed giving assistance to quasi-public organizations and institutions (for example, churches, Scouts, colleges, universities, charities, Camp Fire Girls, YMCAs) in the selection of lease sites. Over 50 of these leases were in effect in 1970.

Research in depth regarding one topic has been avoided purposely due to the belief that it reflects interagency rivalry at a high level that can be probed only with the expenditure of considerably more time than is presently available. That topic is the charging of fees at the Corps' recreational areas. The Tulsa District has attempted to follow to the letter all legislation enacted by Congress, as interpreted by OCE, regarding the charging of fees. Each time it has done this there have been vehement, and sometimes successful objections.

Hunter, Black, DeGeer, and others favored utilization of Corps lands and waters as wildlife preserves and areas for scientific experimentation in marine biology, botany, and zoological subjects. As a result over 250,000 land acres the District first acquired are today devoted to such use. In 1948 the Oklahoma Game and Fish Department, Oklahoma Agricultural and Mechanical College (now Oklahoma State University), University of Oklahoma, Fish and Wildlife Service of the Department of Interior, and the Corps of Engineers joined in a memorandum of understanding whereby they would pool certain of their resources to develop sound fishery and wildlife management practices for impounded waters and their watersheds. It placed emphasis on developing practices to permit the fullest use of the aquatic and wildlife resources under the control of the Corps of Engineers.[37]

Arrangements were made as a part of this program, with the approval of the Civil Service, whereby graduate students in the biological sciences

[36] Interv, Robert M. Black, 24 Sep 74.

[37] Copy of the Memorandum of Understanding and several items of related correspondence in NA, RG 77, Entry 230.2(Tulsa, DO).

could work on the research for their doctoral dissertations as part-time employees of the Corps, using subjects which would result in findings of use to the Corps in the management of impounded waters. Bob Hunter takes pride that some of the Nation's leading scientists in this field participated as graduate students in the program.

One of the most far-sighted policies of the Tulsa District, that of coordinating its activities closely with conservation and fish and wildlife interests, was begun by Colonel Wilson, nurtured by Colonel Chorpening, and emphasized by the District ever since. Support and technical assistance from these interests, including some whose national organizations opposed the Corps' flood control policy, have been invaluable to the District, and it is believed the reverse is also true.

As the structure of the Reservoir Management (later Operations) Division evolved, it included almost from the beginning a Biological Management Section and an Agricultural Land Management Section within the Reservoir Development Branch, the planning area of the Division. Their function was mainly to coordinate the desires of cooperating agencies in the total program, from first engineering investigation to completed project. These sections worked largely with state agencies like the Oklahoma Game and Fish Commission and the Kansas Forestry, Fish and Game Commission. In less than 3 months after he became DE, Colonel Chorpening attributed support for the Corps by these commissions to the emphasis the DE placed on cooperation, the inclusion of biological considerations in planning projects, the ease with which the District Office was contacted relative to desires of the people, and the fact that the District participated in all conservation activities, including conferences and scientific meetings.[38]

At 12 of the 22 lake projects that had been completed by the end of 1971 there were one or more state parks. This, too, reflected the philosophy of Hunter, Black, DeGeer, and the District's local interests, especially in Oklahoma. The State parks of Oklahoma are a part of the dream of Newt Graham, and from the time of his appointment to the Planning and Resources Board by Governor Kerr until his death he was very influential with all the State agencies that cooperated with the Corps in environmental and recreational matters. Graham did not want the Park Service to develop the Corps areas. He preferred its being done by the Corps and the State. Graham himself explored for sites for parks. Colonel Wilson tells how the old fellow nearly walked him to death on these explorations.

There are four luxurious lodges at Oklahoma State parks at Corps projects, built by nonprofit corporations which used the State's credit in issuing revenue bonds. To arrange this financing, special legislation, obtained through the effort of Senator Kerr, Representative Edmondson, and the others in the Oklahoma delegation, was required to permit deeding of these park lands to the State. Graham was an ardent advocate of this legislation in order that Western Hills Lodge, the first one, at Sequoyah State Park could be built.

The Spiro Mounds, among the most significant known archaeological sites in the United States, border the waters impounded by W. D. Mayo Lock and Dam. Myron DeGeer and Bob Black recommended that this area be protected by inclusion in the land to be acquired for the project. It was done and arrangements have been made with the State by which it can, when it has the funds, develop an archaeological park there. The three children of Will Rogers sold the Rogers Farm in the Oologah Basin to the Corps and the Corps arranged with the State for the creation of Will Rogers State Park on the shores of Oologah Lake. The Rogers home was moved to the Park, and after his retirement in 1968, Black planned and supervised the restoration of the house and the furnishing of it. The Spiro Mounds and the Will Rogers home actions reflect an interest and concern on the part of the District for the area's heritage.[39]

Bob Hunter attributes to the late Dan C. Cupps a large measure of the credit for any distinction the Operations Division has won through its handling of the completed projects. Cupps had worked with Hunter in the Memphis District and he joined him in Tulsa in 1947. During his last 12 years before retirement in 1970 he was assistant chief of the Operations Division. He headed the Project Operations Branch which had a multiplicity of functions.

[38] COL C. H. Chorpening to Chief of Engineers, 24 Jun 46; COL C. H. Chorpening to Chief of Engineers, 27 Jun 47. NA, RG 77, Entry 800.12(Tulsa, DO); Sid Steen, "Hunter and Fisherman," *Tulsa World*, 31 Mar 46.

[39] Interv, Robert M. Black, 24 Sep 74; *Tulsa Tribune*, 10 Sep 58, 2 Oct 59.

**Robert S. Kerr Lock and Dam and Reservoir**

Since power went on the line at the District's first hydroelectric power project, the Operations Division has supervised the operation and maintenance of the powerplants, and has been responsible for the many things related thereto. This is the function of the Hydropower Branch, long headed by Alan W. Geismar. The Division also includes a Plant Branch and an Office Operations Branch.

The newest development in the Operations Division has been the creation of the Navigation Branch, made necessary by the navigation system, to operate the locks and dams and to keep the whole system in order, exclusive of the hydroelectric powerplants. Planning for this function began in 1962 when the Little Rock and Tulsa Districts set up an Arkansas River Operations and Management Committee foi the purpose. Bob Hunter and Dan Cupps were the Tulsa District members. The new branch benefited from the program that established standards, regulations, and procedures. An intense training program has been conducted for personnel transferred to this branch. Lockmasters were imported. John C. Maples is chief of the Navigation Branch, and more than 150 people work in this branch.

In July 1970, with the retirement of both Hunter and Cupps, Ira Williams moved over from the Construction Division to Chief, Operations Division, and Billie J. Bishop became his assistant chief. W. L. Boland succeeded Ray Broyles in 1971 as Chief, Construction Division. When Boland retired, Williams moved to Chief, Construction Division, and Bishop became Chief, Operations Division.

Sometime before completion of the navigation system it was apparent that the nature of the District's function was changing. The trend was in the direction of the increasing operational functions and declining engineering and construction functions. With that went retrenchment in real estate acquisitions. The statistics on numbers of employees at the end of each calendar year from 1961 to 1971 reveal trends. All divisions and the administration had fewer employees on 31 December 1971 than on 31 December 1970. With this one exception, the trend of numbers in the Operations Division has been upward, and as of 31 December 1971 it had 591 employees as compared with 245 in 1961. On 31 December 1971 Engineering was second with 373, compared to its peak of 526 on 31 December 1965. Construction was third with 100 as compared to a peak of 344 in 1962. Real Estate had 84 employees

on 31 December 1971; its decline had been gradual from a high of 182 in 1961. Administration had 144 people on 31 December 1971 which was not significantly different from the totals of previous years. Its peak had been 164 in 1965.[40]

Colonel Pinkey and the Personnel Office had noted that the Little Rock District had suffered with personnel problems as it became almost entirely an operations District and an effort was made to avert similar difficulties in the Tulsa District. In every instance where it could do so, the Tulsa District did not replace people who retired. Older personnel were encouraged to retire in order that younger men could be retained. A great deal of thought went into a juggling operation, sometimes involving a person's having to "tool up" for a new assignment. There was no loss of overall efficiency; nor was there any serious unhappiness resulting from this adaptation to change. The future workload on projects to be built, the growing operations functions, the new concern with the environment, and flexibility of administration that has evidenced itself to date combine to insure a bright future for the District for some time to come.

[40] "Tulsa District Personnel Strength."

## CHAPTER XII

## *EPILOGUE*

Until now, except in the Preface, use of the first person singular pronoun has been avoided studiously. I now ask the reader's indulgence as this account of the Tulsa District of the Corps of Engineers is ended on a personal note. It will reflect the experience I have had associating with the men and women, past and present, of the Tulsa District in doing the research for this history.

I had been coming to the Corps of Engineers Building on Boulder between Second and Third Streets only a short time when I began to feel the high morale among the people there. They had pride and interest in their work. They knew what they were doing. They were relaxed, but they seemed even to loaf in a hurry. I soon learned that a large portion of them had been with the Corps a long time. This caused me to inquire about how this had happened, and I was told by one of the original employees of the District that most employee turnover occurred in the first few years people worked for the Corps. No one complained to me about anything. That wasn't like a university campus. In a few months I became aware that the people from whom I was obtaining information were not saying anything critical of anyone else in the Corps. It became a game with me to see if I could provoke them into criticizing an associate. Finally, I gave up, and then it happened—15 months after I began my research I was told something critical of a retired employee.

I talked with Vernon Pinkey about my experience in this regard and he said it was because I was an outsider, that they do talk about each other among themselves. After more than 2½ years of coming and going in three buildings where Corps workers are domiciled, I now have come near to being an insider, for they do sometimes become critical of coworkers. They even have let me in on a little bit of the internal politics, high level and below, in the District, and I now have my confidence restored about the human qualities of these people.

Another thing surprised me. Time after time, as I wandered through the halls looking for the right door to go through to see someone—and this can be difficult due to what someone has called the "Federalese" with which things are named—I would hear, "May I help you?" Not the cold, "May I help you, Sir?" One of the first times it happened, the offer was from the Chief, Office of Counsel. There are some university campuses where, if this happened to me, I would know I had been mistaken for someone who could endow a professorship or give the school a building.

And helpfulness! The willingness of people to assist me has been unbelievable. No one to whom I have gone can be said to be disinterested enough to be classed as indifferent about the history project. "Enthusiastically" would be a good adverb to characterize the way Corps personnel from the lowest to highest rank responded.

Several years ago the reviewer of a biography of Jefferson Davis accused its author of falling in love with his subject. To claim that I have done that with the Corps of Engineers would be going too far, but I have come to have great respect and admiration for it, and above all, an understanding of the organization. I do not believe I am the victim of a "snow job." If I had a bias in the beginning it was anti-Corps, despite the fact that I once had a very happy experience working as a junior engineering aide for a summer at a Corps project in the Little Rock District, and that my father had for 6 years worked as an attorney for the Corps in the Memphis District and had nothing but praise for his associates who had included Bob Hunter and Dan Cupps. I had often wondered about who was using whom in projects like the waterway. Maybe that question in my mind accounts partly for the shape this history has taken. My answer is either that neither the local interests nor the Corps is using the other, or that each is using the other to the advantage of their mutual concerns.

I want now to talk about mainly little things that seem to me as a historian to account for the kind of organization and high morale I have found here and incidentally to include a few more bits of history from the great mass of things I have not been able to work into this account so far. The documentation will be less extensive than in the other chapters.

Let us start where I began—with Records Management. The Federal Government probably has, and needs, the most sophisticated records management program there is. Elsie Molt and

Jeannette Perry, her assistant and successor after she retired, understood the system well. They knew what was here and where it was or at least where it was supposed to be. They had good records on what had been shipped to Federal records centers in their time, and they knew what was supposed to be destroyed when. Mrs. Molt had also filled four drawers of a large file cabinet with historical materials. They helped me get at a wealth of source material, but the mass through which one has to dig is overwhelming. I would have given up in the first month if it had not been for these two people. The records management program is not planned for use of historians and one spends more time searching, even at the Suitland, Maryland, center, than in researching.

The Tulsa District Library was a joy, even when remodeling was going on. The Librarian, Myra Craig, and her assistant, Angie York, waited on me endlessly without even a look of complaint. I had a work spot there for about a year and a half. The District Library is an asset to scholars in this area, as well as to District personnel, because of its specialized holdings. I used mainly Government documents related to rivers and harbors, Corps of Engineers publications, publications of organizations and governmental agencies concerned with water resources, and periodical literature. The Library contains many technical publications of use to the engineers and other scientists of the staff, and also a small collection of books for general reading by Corps employees. There are several copies of Kerr's *Land, Wood & Water* to offset the three or so copies of Peterson's *Big Dam Foolishness*. Many of the best works critical of the Corps are on the shelves. The trend is toward the development of collections in district libraries of current publications of both general and specialized reader interest. Environmental issues, equal employment opportunities, women's programs, and studies of ethnic groups are examples of topics with which recently acquired materials deal. The Library at OCE is leading the way in this respect, and the Tulsa District Library is following the pattern I saw there. Microfiche and microfilm readers have been added and the library space expanded since my research began.

The library in the Office of Counsel is in a sense an adjunct of the main Library, in that the books and services are ordered through it and the record of holdings kept there. Probably most large, successful law firms have a library to match it. But it is important to have these tools. I found it very useful with the help of James Dwen and my three former students—John Chronister, Terry Smith, and Rowe Wynn—attorneys in the Office of Counsel.

Throughout the offices one finds reprints of scholarly papers, journals, technical books, and the like. The hydrological library in the Hydraulics Branch has collections of published data that cannot be found elsewhere in the Tulsa area.

What I am trying to say is that these things constitute a part of the working environment that can be only a good influence on Corps people.

The activity that traditionally is called public relations (PR) in most places is carried on in each district throughout the Corps by the Public Affairs Office (PAO). Well, that beats Technical Liaison Office which it formerly was called. Public relations in the Tulsa District is very low key and doubtedlessly low budgeted. My study indicates it has always been that way, and I cannot help wondering how it compares in expenditures with other Government agencies, especially the Soil Conservation Service, the Bureau of Reclamation, and the National Park Service, which have some responsibilities similar to those of the Corps.

The current chief of PAO is John C. (Jack) Thisler, and his public information specialist is Ruth Walton. The office also has a clerk-stenographer and sometimes an Army officer is assigned to it. PAO prepares press releases, writes speeches, prepares public presentations, operates a speakers bureau, arranges interviews and press conferences for visiting officials, prepares content for information pamphlets, supervises clipping service and information files, and does many other things. Above all else, when a representative of the news media or a writer doing research for a magazine article comes in for assistance, the staff drops every activity that can be dropped and gets the information for the inquirer. They have often done the same for me. Other Corps employees needing data receive the same consideration, but PAO also uses other employees as information resources. Among those who headed the office earlier are Rowe Hartfield Holmes, Virginia Kauble, Locke Mouton who is Deputy Chief of the Public Affairs Office, OCE, and R. L. Lansche.

A Madison Avenue, image-making type of public relations program is not needed when almost everyone in the organization considers himself a public relations representative as indicated by the

many "May I help you?" greetings I have had. It is policy for employees to be aware of their individual PR value. Along with this is a policy of openness that applies, except in security matters, to those who are in contact with public officials and local interests whether they be supporters or critics of Corps policy. The importance of the accessibility of the right person to these groups and individuals is stressed. Numerous directives emphasizing these policies are among the things I have found in the records. No matter what the provocation, Corps personnel are expected to "keep their cool."

Directives would be ineffective without loyalty to employer. Intense loyalty to the Corps of Engineers is a quality of the great majority of the people in the Tulsa District. It stands out. The ingredients that produce it are many, and perhaps the historian will miss many of them and misread other things as contributing to it that do not have anything to do with it. Something has to build this loyalty and the pride of accomplishment that accompanies it. Something also has to give the feeling of community, of belonging, that is not automatic in an organization as large as that of the Tulsa District. Perhaps it starts with the belief that the Corps of Engineers has had an important role in the military defense of the Nation. Intense patriotism and nationalism pervade the Tulsa District.

Business knows the value of programs of recognition, even if it is only counting the years of service. At some time, and no one I have questioned has been able to tell me when, the practice was started of calling the original 278 District employees the Colonizers and giving them membership in the Colonizer's Club, which so far as I know never met. For many years the names of the Colonizers left have been printed in the program of the Engineering Day ceremonies. Bob Hunter tells that once he upset a District Engineer who was "making over" the Colonizers by reminding him that, as with the Indians who watched the Pilgrims land, there were engineers out here before the Colonizers arrived. He had in mind such people as George Shepherd, Bob Sutter, and Phil Goodman who had worked in the Arkansas Basin for the Memphis or Little Rock Districts or both. There seems always to be someone here like Hunter to keep sentimentality from getting sticky.

Bob Hunter must have either raised the blood pressure or calmed the anxiety of many people who became too serious about small issues with his play of humor upon them. I regret that propriety precludes my describing the statistical study he proposed to SWD before complying with an order to correct the design on toilet bowls and urinals in public toilets at civil works projects.[1]

On Engineering Day each year employees of the Corps for 10, 20, 30, and 40 years are recognized and honored. Awards that have been won competitively are made to the outstanding resident offices. Management Improvement and Performance Awards are also presented.

Throughout the District's history there has been a program for rewarding suggestions for improving efficiency and reducing costs. It has been called Incentive Awards for many years, and a committee administers it. Workers are not in competition with each other but with themselves to win substantial cash rewards that are based on the savings which result from the suggestion. I have not had time to gather full information on this program, but have made notes each time I saw something significant about it. Two items will be noted: First, Nelson Hoss was the FY 65 Suggester of the Year for SWD. He became active in the Incentive Awards Program early in 1959 and to August 1965 his awards had averaged $40 monthly. Second, in March 1970 MG Carroll H. Dunn, Deputy Chief of Engineers, presented to the Tulsa District the Department of the Army Award for excellence in its suggestion program. In FY 69, 855 suggestions were turned in and 200 were adopted which resulted in savings amounting to $99,000. Tulsa was the first District in SWD to receive the award.[2]

Blood donors and others rendering social service in the community are recognized often in the *TD Information Bulletin.* There have been times that the people have taken on special projects as in 1946 when Tulsa's fifth iron lung was given to the Tulsa Junior League by the District employees. Lon Rylander, a Corps employee who had been stricken with polio in the epidemic of the preceding summer, conceived the idea and a group was formed to raise the money. The Junior League was acting as an agency for distribution of the lungs to the local hospitals. The Civilian Recreation Association and

[1] Robert F. Hunter to C. E. Solomon, 26 Jul 62. Copy in possession of writer.

[2] *TD Information Bulletin* 5 (20 Aug 65):3; *Tulsa Tribune,* 13 Mar 70.


Tulsa Engineer District BOWLING LEAGUE Year 195[illegible] - 19[illegible]

its predecessor organizations used income from operation of vending machines, until a policy change ended its operation of the machines, and from other functions to support worthy causes.

Planned recreational activities seem to have been very important for many years and included even family picnics for the entire Tulsa staff, with hours of attendance staggered to take care of the large crowd. The Civilian Recreation Association coordinates the recreation program.

It comes out in conversation that the social intercourse among District families has always been high. Many of the men are sportsmen and they fish and hunt together. Colonel Herb, DE from December 1950 to July 1953, suggested in a delightful letter to me that extracurricular activites are a part of the District's history and not to overlook the quail and duck hunting. Colonel Herb also called my attention to an activity that ties the engineers together, the Tulsa Chapter of the American Society of Military Engineers. Dormant in 1950, it became quite active in 1951 and 1952, Colonel Herb says. There are so many engineers in Tulsa that most of the engineering societies have active chapters in Tulsa, and membership and participation contribute to keeping them alive professionally.

Ira Williams and others have told me that in most instances the Corps people in the field offices, especially those concerned with construction, become closely knit social groups with few ties other than the professional ones to the District Office. But many become active in community life. Personnel at the operational offices are more likely than construction people to do this.

The one single influence that countless people have told me is the most important factor in tying the District men together and keeping morale high is the Beefeaters Association. It is entirely unofficial and has no status in the District organization. The best I can tell it originated in David Helms' backyard in a small picnic supper for Colonel Chorpening shortly before his departure. From that beginning it grew into a stag organization at which the men cook steaks over charcoal cookers they have made from oil barrels. The get-togethers are convivial affairs where the men relax and have a good time. Sometimes in these circumstances they get off their chests matters that have bothered them, and say to each other things that could not be said in an office environment. The result has often been a clearing of the air that improved working relations.

The Beefeaters met for a few years in warehouse buildings of two different Tulsa businesses, but when these firms became contractors with the District the Beefeaters would no longer use their facilities. This caused them to use for some years a huge barn located on Highway 75 north of the Tulsa bomber plant, which the men converted from its original purpose to theirs on short notice for their initial use of it. That required a great deal of shoveling. The Turley Round-Up Club is now rented for the night. For a number of years Mel Parse, the chief of Construction Division who became chief of the Engineering Division, made the Beefeaters his project. A highly organized committee system took care of all details. Mr. Parse reduced the estimation of quantities of ingredients required to a science, making a table with a designated quantity per person of the various items with names of persons responsible for each. Some examples from his list of quantities required per person are Scotch, 1.5 ounces; Bourbon, 2.0 ounces; beer, 1.5 cans; sparkling water, .1 quart; 7-Up, .12 quart; potatoes, 1; French bread, .2 loaf; coffee, .05 gallon; cream, .013 pint; stir sticks, 1.5; hot cups, 1.5; and steak before trimming, 1.7 pounds. The tossed salad was standardized. It consisted of .13 head of lettuce, .01 gallon of dressing, .1 pound of tomato, .03 pound of peppers, .13 bunch of radishes, .2 ounce of cheese, and .16 egg per person. Mr. Parse did not overlook a single item that would be needed—charcoal, lighter fluid, ice, dish cloths, paper towels, beer tub, knives, forks, and at least a dozen other things were itemized and some committee member made responsible for each.

These stag parties had begun with men from the higher echelons, but gradually they were opened to more personnel until all male employees and retired male employees were invited to participate. They are scheduled to coincide with meetings in Tulsa of the resident engineers from the field offices. This has a good effect in bringing the two groups together. Attendance averages about 135 now, but for years ranged between 160 and 190. Jerry Nash administers this activity today and follows the pattern set by Mr. Parse.[3]

LTG Walter K. Wilson, Jr. was the honored guest at a Beefeaters' party on a visit to Tulsa while

[3] Interv, David Helms, 5 Feb 73; Interv, Jerry Nash, 26 Nov 73; copy of Mr. Parse's list given to writer by Jerry Nash.


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he was Chief of Engineers. Howard Penney came through Tulsa between assignments at a time a Beefeaters' dinner was scheduled. He had just been nominated for brigadier general. The Beefeaters confirmed the nomination and pinned a large tin star they had made on his shoulder.[4]

A District Engineer wrote in his quarterly letter to the SWD Engineer that the resident engineers had held a good session in Tulsa and then he added: "The Beefeaters Association met that night and 135 of us polished off 300 pounds of choice Oklahoma beef; 25 loaves of bread; a No. 3 washtub of tossed salad; 6 gallons of refreshments, liquid, spirit; 7 cases of refreshments, liquid, malt; and 7 gallons of coffee."[5] Hearty eaters and drinkers I would say!

The history of the housing of the District Office in Tulsa is intriguing, and perhaps there is something in it that accounts for the "togetherness" of the Corps family. In the early years, space for Corps activites was acquired wherever it was available, but during World War II the bulk of the Tulsa Office employees were housed in the Wright Building on Third Street in downtown Tulsa. In February 1947 the press reported that W. C. Berry who had recently purchased the building from Frank Buttram of Oklahoma City with whom the original lease was made wanted possession of the building. Evidently terms of the lease were favorable to the Corps, and they were to be effective until 6 months after the end of the war. Colonel Chorpening resisted efforts to oust the Corps from the building, saying the war had not been officially ended. He did not object to moving to the bomber plant northeast of Tulsa, a possible location for the office, if permanent occupancy could be assured, but the future status of the plant was uncertain, especially after it was returned to the Air Force in the spring of 1948.

Court action against the Corps was threatened by Mr. Berry and his attorney, and Rep. Ross Rizley called for a Congressional investigation of Colonel Chorpening and the District for their refusal to vacate. Colonel Chorpening was unmoved, for he believed the District had a legally enforceable contract. At this point the Tulsa Chamber of Commerce stepped into the controversy to find a satisfactory solution, and in effect "yanked the rug out from under" the District Engineer. Harvey A. Heller, president of the Chamber, telegraphed Sen. Elmer Thomas on 14 April 1948 as follows:

> There is tremendous unfilled need in Tulsa for at least one hundred thousand square feet additional downtown office space. It will be greatly appreciated by Tulsa citizens if through cooperation of various governmental agencies the army engineers now occupying some fifty thousand square feet of downtown office space could be accommodated on permanent basis in unused office at administration building of aircraft assembly plant number three, Tulsa. . . . Under no consideration does city of Tulsa want to see Corps of Engineers district office removed from Tulsa.

The next day Senator Thomas replied:

> Retel order issued today directing U.S. Engineers to move from Wright Building to bomber plant by May 7.

The offices were moved to the bomber plant and in general the personnel were well satisfied there. The Korean War brought reactivation of the plant and in early 1951 the District vacated the building on short notice and took up cramped quarters in the National Guard Armory on the Tulsa County Fairgrounds. At this time the District was furnishing offices to AWRBIAC. Those who experienced the ordeal of armory occupancy look back upon it now quite philosophically, and because it related to the Nation's Korean War effort they took it in stride at the time.

One has to see the armory to appreciate what working there was like. It had no air conditioning; all doors and windows were open without screens in summer. Birds were always in the big, high ceilinged room that Guardsmen had used for drill. Harold Black of the Planning Branch has quite a repertoire of stories about how the Corps personnel lived with their feathered friends. As a Christmas gag, safety helmets were given to bald-headed men, and the gang in Relocations set up a money pot which was awarded to George Black for being the first person "bombed" by a bird. Papers on desks were often organically fertilized.

The Muskogee and Oklahoma City Chambers of Commerce had been watching the situation in Tulsa from 1947, but Corps people who should know say there was never any danger of Tulsa's losing the District Office. The several hundred employees liked Tulsa too well for that. Muskogee was a more logical location than Oklahoma City, and while office space was available there, residential housing for employees was not.

[4] *TD Information Bulletin* 6 (14 Apr 65):1. Interv, LTG Howard W. Penney, 19 Jul 73.

[5] COL Vernon W. Pinkey to MG Clarence C. Haug, 1 Nov 68. TD Records.

The Tulsa Chamber of Commerce now redeemed itself. In 1950 it had negotiated the sale of its stock in the Tulsa Club Building where its offices were, and had plans under way for its own two-story building at 612 South Boston. It worked out an agreement by which the building would have six stories and basement and five floors would be leased to the Corps of Engineers for offices. The Corps occupied the new building in May 1952, and remained there until 1968 when the General Services Administration moved it into a refurbished Federal Building which had been vacated when a new and larger one was built. In 1962 the District had rented additional office space in the Enterprise Building, a half block from the Chamber Building. Today, besides the 75,000 square feet in the old Federal Building, it uses three floors of the Petroleum Building and an entire building at 223 North Main. This latter building is used for the Soils Laboratory, the Motor Pool, the Records Holding Area, and storage.[6]

In 1943 a small group of Corps of Engineers employees had a major part in creating the Tulsa Federal Employees Credit Union which by mid-1974 had grown into an institution with total assets in excess of $14,000,000. Five of the seven incorporators were from the Corps—Howard T. Bolton, Keith C. Colwill, Jesse C. Horn, Jr., George A. Winters, and Truman W. Allen. The other two, Harold M. Garrett and Charles I. Winch, were from other agencies. P. A. Barr, Ira E. Lynch, and Ray B. Plummer were among the most active early leaders in the credit union which began with 12 members and total assets of $240. H. T. Bolton, President Local 386, National Federation of Federal Employees, was the first president, but more Corps employees and members of their families have held membership than the total of the other Federal agencies combined. Postal workers have their own credit union, but are eligible for membership in this credit union.

A membership cost $5 but it could be purchased on the installment plan with minimum payments of 25 cents. The personal unsecured loan limit was fixed at $50, and the maximum total deposit allowed at first was $300. The most popular type of loan for a time was the Pay-Day loan which was limited to $14 until March 1944 when the limit was raised to $25. The credit union was operated out of the desk drawer of the secretary-treasurer during the noon break and after hours. The credit committee approved applications for loans which were made in the order approved as money became available. There were times when members were urged to make deposits of small amounts in order that the waiting period would not be too long for those in need of loans. John A. "Buddy" Hart, manager of the credit union since 1956, recalls that he waited several weeks after his return from military service in 1946 for a loan of $75 needed to purchase a used refrigerator. Small stipends were voted to compensate the secretary-treasurer and by 1946 he was bonded for $1,000. D. E. Temple, long-time leader in the credit union movement in Oklahoma, gave counsel to the group when he could be of help, and no doubt influenced the decision to join the Oklahoma Credit Union League in 1946.

By 1956 the credit union had a membership of 1,200 and assets of $500,000. A full-time manager was needed and applications for the position were solicited. The man selected was not one of those who applied for the job, but was a person drafted for it, John A. "Buddy" Hart. He had joined the Corps of Engineers in the Little Rock District in 1937 and in August 1938 had transferred to Denison with Captain Rhodes to help set up the Denison District. He worked in personnel with Ed Anton, the original personnel officer there. They hired the first local employees from behind a desk which consisted of two orange crates and the wide board they supported. In 1942 he entered military service, and in January 1946 returned to the position in the Tulsa District to which his veteran status entitled him. His work was in personnel until 1956 when he moved to the credit union as manager. Hart's friends give him unstinted praise for his leadership in making the credit union the success it is. Many other Corps of Engineers people have served on the board of directors and contributed their talents to this interesting venture which has had an impact beyond the confines of the Corps. Five of the seven members of the board of directors in August 1974 were present or retired Corps employees, and the chairmen of the supervisory and credit committees were Corps employees. The 1974 president of the Oklahoma Credit Union League was Victor E. Steinley who has been involved in the credit union activities for 22 years.

[6] *Tulsa Tribune,* and *Tulsa World,* various dates; *Tulsa Spirit,* various dates. TCC Minutes, 13 Apr 48, 16 May 67, 11 Dec 68; Interv, David Helms, 5 Feb 73; Telegrams, Harvey A. Heller to Sen. Elmer Thomas, 14 Apr 48, and Elmer Thomas to Harvey A. Heller, 15 Apr 48. Thomas Papers.

From its beginning until the quarters at the Chamber of Commerce Building became so crowded that the Corps itself had to rent extra rooms in the Enterprise Building, the credit union was housed within the Corps offices. It required no additional space as long as the operation was out of a desk drawer, but the time came when a separate office was necessary. Only one District Engineer objected to the Corps' furnishing the quarters rent-free. It is believed that he was overruled at OCE, but he made the credit union buy its own furniture and he sold that which they gave up for salvage. Some former District Engineers still have active accounts at the credit union. The credit union's quarters then have included the Wright Building, bomber plant, armory, Chamber of Commerce Building, and the Enterprise Building. In 1968 when the move was made to the Federal Building, the credit union moved to the Franklin Building at Fourth and Boulder, a block away. In October 1971 it occupied its own attractive and unique building at 121 West 3rd Street, a block from the main Corps office, which it had constructed on land bought from the Tulsa Urban Renewal Authority. The expressions of pride in the growth of the credit union from its humble beginnings to an institution which has made millions upon millions of dollars of loans to Federal employees from the millions of dollars of savings of Federal employees leave no doubt that it has been an important part of the history of the people of the Corps.[7]

Many people go through life at work the tangible results of which they never see, but this is not true of builders. Nor is it true for the workers in the Tulsa District, for over its expanse stand the products of their work. It is easy to take measure of what they have done and, believe me, these people are proud of their many finished projects, especially when there is something unusual about the design. Klon Buckles, chief of the Personnel Office, believes the degree to which employees take pride in the work of the District is related to the indigenous character of the personnel. He says that more of the engineers are graduates of Oklahoma State University than all other engineering schools combined. When Myron DeGeer, a graduate of Kansas State University, was honored upon his retirement, Colonel Driskill referred to him as a member of the other alumni, that is, other than OSU. As long as the University of Oklahoma continues to wallop OSU on the gridiron, the engineers who graduated from OU can stand to work among the OSU alumni. One OU alumnus explained to me that those engineers who flunk out at OU go to OSU, and his tongue almost went through his cheek. But back to Buckles' point. It is debatable, but I think there is something to it.

The Corps employees are more aware than the general public of some services the District performs without fanfare. These have included student trainee programs in which both college and high school students have participated, a heavy civil defense responsibility, a statewide survey to locate and designate fallout shelter areas, and the planning and execution of disaster relief. Trained volunteers from the District have served in such disasters as an Alaskan earthquake, Gulf Coast hurricanes, and floods in the northeastern United States in addition to those disasters within the District. The Emergency Operations Planner is a special assistant to the District Engineer and a member of the Operations Division staff.

Fort Sill, Tinker Field, and the Tulsa District Office are the three designated military stations in Oklahoma to which stranded servicemen may go for assistance. In September 1961 Mrs. Bernice Carroll (now Porter), the staff member of the Office of Administrative Services who then handled the function, was assisting 15 to 25 servicemen a month who came to her for transportation back to their military installation. Their reasons for their being stranded varied widely as did the personalities and dress of the men. If the serviceman had his orders his problem usually was solved quickly. Without the orders, verification had to be made by telephone with his base. The cost of his travel ticket could be deducted from his pay later. Assistance is given servicemen in getting other kinds of papers and applications in order. Occasionally a "voluntary" AWOL walks in. Usually his home base will agree to sending him back "on his own" without guard or escort. One sees more servicemen at the Travel Section, often accompanied by members of their family, during the Christmas season than at other times of the year. Their problems are handled in better than a perfunctory manner.[8]

[7] Interv, John A. "Buddy" Hart, 30 Jan 74. Early records and minutes of the Credit Union, and miscellaneous publications of the Credit Union.

[8] Conversations with Mary Ellen Rutherford, Bernice V. Porter, and Hazel Burkhead, district travel clerks over the years.

Communication among the people in the Tulsa Offices is amazing. If there is a system to it, I have not been able to discover it. However, the typical employee is well informed about the things being done throughout the organization and the people who are doing them.

I have been impressed with the Tulsa District by very personal things many of the people have told me. Two examples should make my point. Billy Mahaffay, who has a GS-14 grade and has been an engineer and administrator within the Engineering Division, told me that upon his graduation from OSU after World War II he took employment with the Tulsa District, but considered it temporary until he could find another job. He said he has never looked for one, because there has never been a time since that he has not been challenged as an engineer. Charles Steed, chief of the Automatic Data Processing Center who is an engineer with a GS-13 grade, had polio and has to use a wheelchair. He joined the Corps of Engineers because the Tulsa District would employ a handicapped person. He hoped not to have to stay long, and he was embarrassed to accept a Government job, a category he held in low regard. He changed his mind quickly, he said, because he found he was associated with competent, hard-working, dedicated people, and he has never sought a position elsewhere.

It probably will not happen in the future, but there are people who entered Federal service in the Corps at the lowest possible Civil Service classiciation with no college training who worked their way up to GS-12 and GS-13 grades and became important cogs in the machine. I think of three: Charles Flanery about whom a great deal has been said, William Lemmon, and Bob Sutter. I have turned to all three, and especially to Sutter, for assistance in my research. There are many more like them. Others may disagree, but to me this reflects the American dream we hear so much about but do not often see in actuality. These people have been credited for what they are and what they can do.

When I began this project I believed one of the great weaknesses of the Corps was the District Engineer system which rotates men in and out at intervals of approximately 3 years. I thought much would have been gained if a leader had seen the navigation system through from beginning to end. I am convinced now that my judgment was bad and that the system is one of the strengths of the Corps. The continuity depends on permanent personnel, and not the DE, but District Engineers are contracting officers and they administer the expenditure of many millions of dollars. The claim was made in *Fortune Magazine* in 1964 that financial scandal had never touched one of them, and so far as I have been able to determine it has not since. When I questioned Colonel Pinkey about this he pointed out that there are built-in checks and balances, one of which is the rotation system.[9]

One result of the emphasis on local interests in my research and presentation is that I have gained some concept of how the work of the DE relates to his nonemployee constituents. I have interrogated perhaps 25 persons at length about the District Engineers under whom they served and have engaged in countless short conversations with Corps personnel about specific DEs. Colonel Wilson and Colonel Pinkey have given me hours upon hours of their time. I have taped personal interviews with Colonel Wilson, Colonel Pinkey, Colonel Ladd, General Morris, General Rebh, and General Penney, and a long telephone conversation with General Chorpening. I have letters from Colonel DeNoya, Colonel Bristor, Colonel Herb, Colonel Daly, and General Chorpening. All of this gives me at least a notion of the substance of which Tulsa DEs are made. They have to be given credit for achievements of the District, and there is a very close relation between them and the high morale of the District. I am tempted to say that the later distinguished careers of some of these DEs have done as much for the morale of the District as completion of the navigation system on time.

There has been an interaction between the city of Tulsa and the District Engineers that the DEs have loved. Several told me that it was easier to become a real part of the Tulsa community than any other place they had ever been on official assignment. Some told me it was the only place they had been on duty where it was possible. Several said it was one of their most rewarding and happiest tours of duty. One told me unequivocally that it was the best assignment he ever had. General Morris spoke to me of his becoming chairman of the building committee of a new church, of his daughter's riding in the annual horse show, and of how the Morris family came to look upon Tulsa as home. He said it was

[9] "The Taxpayers' Own Diggers and Builders," *Fortune* 49 (Apr 64):123-31.

**Colonel Rebh in Characteristic DE Role**

easy because people were interested in them. And then he said, "That kind of gives you a sense of obligation; you want to work hard."

When General Morris was at Tulsa it was the largest civil works district, in terms of program, in the Corps. It ranked third when compared with districts that had both civil works and military responsibilities. People like to be first or best. There is a belief, which I would not dare confirm without more knowledge of other districts, among Tulsa personnel that the Tulsa District is the best District in the Corps, or at least that in certain areas the District is the best. It is good for them to feel that way for they try to live up to it. I questioned Colonel Ladd who has seen many districts and also LTG Frederick J. Clarke shortly before he retired as Chief of Engineers about this belief; and, of course, they did not give the District a rank like 1, 2, or 3, but they did say Tulsa was near the top and had every right to be proud of its record.

There is an awareness among the personnel within the Tulsa District that they are part of an organization that is nearly 200 years old. Even if one takes the 1802 date from which the existence has been continuous, there is no other comparable Government agency whose life is nearly so long. The very life of the Corps is dependent upon political action, but as Colonel Pinkey pointed out to me, that political action differs from that upon which many other agencies depend, in that it does not reach down into the internal structure of the Corps. He says that to be a Corps employee is different from being an employee in any other part of the Government. This claim should not be taken lightly.

There has been no censorship of this history. My review committee has checked it for accuracy and critiqued it to good advantage. Many others have assisted in checking my judgment and understanding as well as facts. I have studied the major criticisms of the Corps and I know something of the preservationist view of John Muir and the philosophies of the Sierra Club, Audubon Society, Isaac Walton League, and numerous relatively new environmental and ecological groups in Oklahoma

and the Nation. It has not seemed proper for me either to attack their philosophy or attack the Corps with their philosophy. And now I am too biased to do either. I do believe that neither should be done until there is knowledge and understanding. To those who would understand the Corps of Engineers, there is no better example than the Tulsa District. Whatever the Corps is—good, bad, or otherwise—the Tulsa District is it. The Corps of Engineers may be judged by the District record.

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ESSAYONS